REPORT RESUMES

ED 002 891 24
THE USE OF TEST RESULTS.
BY- HASTINGS, J.T. AND OTHERS
ILLINOIS UNIV., URBANA, BUR. OF EDUC. RESEARCH
REPORT NUMBER CRP-509 PUB DATE 60
CONTRACT OEC-509(8141)
EDRS PRICE MF-$0.36 HC-$9.72 243P.

DESCRIPTORS- INSERVICE TEACHER EDUCATION, *COUNSELORS, *ADMINISTRATIVE PERSONNEL, QUESTIONNAIRES, SURVEYS, *DECISION MAKING SKILLS, *TEACHER ATTITUDES, SECONDARY SCHOOLS, *TEST RESULTS, INTERVIEWS, ILLINOIS, URBANA

THE STUDY BEGAN WITH A STATEWIDE QUESTIONNAIRE SURVEY TO PROVIDE ESSENTIAL STATISTICS ABOUT VARIABLES EXPECTED TO BE OF CONTINUING INTEREST, AND TENTATIVE ANSWERS TO SUCH QUESTIONS AS WHETHER FORMAL TRAINING IN TESTING IS ASSOCIATED WITH DIFFERENT PRACTICES IN THE USE OF TESTS OR IN DIFFERENT BELIEFS ABOUT THEIR USEFULNESS, AND WHETHER THE PRESENCE OF COUNSELORS IN SCHOOLS HAS OBSERVABLE AND RELEVANT EFFECTS ON THE CONDITIONS OF STUDENTS. THIS STUDY WAS DESIGNATED SUBSTUDY A. SUBSTUDY B WAS AN EXPLORATORY TRAINING PROJECT, SUBSTUDY C COVERED FACTORS WHICH INFLUENCED TEACHERS' DECISION-MAKING PROCESSES, AND SUBSTUDY D REPORTED ON INVESTIGATIONS INTO TEACHERS' ATTITUDES TOWARDS USE OF INFORMATION ACQUIRED BY MEANS OF TESTS. THE RESEARCH REPORTED IS THE FIRST PHASE OF A LARGER PROGRAM. SOME OF ITS MORE IMPORTANT PRODUCTS WERE METHODOLOGICAL--KIT, THE CARD SORT, AND THE FINDING THAT TEACHERS CAN DESCRIBE ONLY VERY POORLY THEIR OWN DECISION-MAKING PROCESSES. OTHERS WERE ESTIMATIONS OF THE BRUTE LEVEL ATTITUDE OR REPORTED PRACTICES AS TO HOW MANY 11TH GRADERS IN ILLINOIS FELT THAT THEIR TEACHERS SPEND AS MUCH TIME AS THEY OUGHT TO SPEND IN GETTING TO KNOW THEIR STUDENTS, OR HOW MANY MENTIONED SCHOOL FACULTY MEMBERS WHEN ASKED TO WHOM THEY USUALLY GO TO TALK OVER THEIR PLANS AND PROBLEMS. THE SUBSTANTIVE FINDINGS SUGGESTED IMPORTANT FACTORS TO BE CONSIDERED, NOT ONLY IN FURTHER RESEARCH, BUT IN TRAINING COUNSELORS AND TESTING EXPERTS. (JL)

ED002891

U. S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
Office of Education
This document has been reproduced exactly as received from the person or organization originating it. Points of view or opinions stated do not necessarily represent official Office of Education position or policy.

THE USE OF TEST RESULTS

Cooperative Research Project No. 509

J. Thomas Hastings, Chief Investigator
Philip J. Runkel, Associate Investigator
Dora E. Damrin, Research Associate
Robert B. Kane, Research Assistant
Gerald L. Larson, Research Assistant

Bureau of Educational Research
University of Illinois
Urbana, Illinois

1960

The research reported herein was performed pursuant to a contract with the United States Office of Education, Department of Health, Education, and Welfare

341.4
199

Contents

Page
Chapter I: INTRODUCTION 1
Chapter II: SUB-STUDY A 2
The Sample 2
Effects of School Size and Number of Counselors 3
Effects of Training and Experience 13
Satisfaction with Existing Practices and Attitudes 21
Reactions of Students 23
Summary 34
Chapter III: SUB-STUDY B: THE FAIRVIEW INSTITUTE 35
The Sample 35
The In-Service Training Plan 37
Follow-Up 38
Summary and Recommendations 42
Chapter IV: SUB-STUDY C 44
Procedure 44
Scoring the Card Sort 47
Analysis of the Card Sort 48
Hypothesis Testing 50
Summary 53
Chapter V: SUB-STUDY D 55
Instruments Used 55
Sample 56
Variables 58
Hypothesis I and results 59
Hypothesis II and results 61
Hypothesis III and results 64
Hypothesis IV and results 65
Summary 69
Chapter VI: SUMMARY 71

List of Appendices

PART I

Appendix 1: Research proposal--Appendix A to Contract 509(8141).

PART II--SUB-STUDY A

Appendix 2: Introductory letters and follow-up letters to participants.

3: Questionnaires for teachers, principals, counselors and students; and code manuals.

4: First report to participants.

PART III--SUB-STUDY B

Appendix 5: Questionnaire for teachers.

6: Test of Knowledge and Interpretation of Tests.

PART IV --SUB-STUDY C

Appendix 7: Interview schedule and questionnaire.

8: SSC Card Sort and scoring directions.

PART V--SUB-STUDY D

Appendix 9: SSD Card Sort, interview schedule, and scoring directions.

10: Questionnaire for teachers.

Chapter I

INTRODUCTION

This report covers the first phase of work in a broad inquiry into teachers' use of information about students in public high schools of Illinois. The central aim of the research was to investigate the correlates and determinates of existing test use on the part of teachers, counselors, and administrators. Our concern, in other words, was not with ascertaining what attitudes, practices, and uses of student information were "best," but with ascertaining what attitudes, practices, and uses existed in Illinois high schools and what variables might be associated with them.

We began our the [illegible] study with a state-wide questionnaire survey. This survey was intended to provide ~~us with~~ (1) essential statistics about the distributions of many of the variables we expected to be of continuing interest, and with (2) tentative answers to such questions as whether formal training in testing is associated with different practices in the use of tests or in different beliefs about their usefulness, whether the presence of counselors in schools has observable and relevant effects on the cognitions of students, etc. This questionnaire study, designated Sub-study A, is reported in Chapter II.

We believed that we also needed to explore some possible ways of affecting the attitudes and practices of teachers in regard to gathering and using information about students. Accordingly, a course of training--an "institute" if you will--was laid out and put into effect in a large high school in northern Illinois. This training was organized so as to be of practicable dimensions and was carried out, from the point of view of the teachers involved, not as research by us but as one of their regular in-service training opportunities. This exploratory training project was named Sub-study B, and comprises Chapter III.

In contrast to the extensive character of Sub-studies A and B, Sub-studies C and D were intensive in nature. Sub-study C, reported in Chapter IV, focusses upon the problem of assessing some of the critical factors which influence the teacher's decision making process. Sub-study D, described in Chapter V, reports an investigation of knowledge and training as correlates of teachers' attitudes toward and use of information acquired by means of tests.

All aspects of the research reported here were conducted by the project staff as a whole. Although one member typically would undertake the job of designing and drawing up a first draft of a specific unit of work--such as laying out a plan of analysis or constructing a measuring instrument--his efforts were always subjected to the critical review of the other staff members and modified accordingly. In consequence, the final result must be considered a group responsibility.

Chapter II

SUB-STUDY A

The primary aim of this sub-study was to discover how teachers, counselors, and administrators use test information, as well as information of other types, in working with pupils and parents. In addition, students' attitudes toward certain aspects of their schools' guidance programs were sought and some of the results of that inquiry are reported here to round out the total picture.

The Sample

Data were obtained from public high schools in Illinois having 100 or more students; a total of 591 schools. Each school was sent a minimum of seven questionnaires: one to the principal, one to the guidance counselor, and one to each of five randomly selected teachers. If a school had more than one counselor, the director of guidance was selected as the respondent. In schools of 2500 or more students, questionnaires were sent to 15 instead of to only 5 teachers. This method of selecting teachers for the sample yielded a total of 3501, or 20% of the approximately 17,675 teachers to be found in these schools. Finally, 40 schools of 500 or more students were randomly selected and questionnaires were sent to 30 eleventh-grade students in each one.

The questionnaires sent to principals, counselors, and teachers were identical save for minor changes in wording and an occasional question specific to the duties of the respondent. Counselors, for example, were asked about the kinds of problems teachers brought to them, whereas principals were questioned about the number of teachers on their faculties. The questionnaires sent to students, although similar in aim, were markedly different in content and wording.

A total of 5543 questionnaires were sent out and around 90% were completed and returned, as shown in Table I. In comparing the answers of respondents who replied promptly with the answers of those who replied after being sent one or two reminders, we found no important differences. This gives us some confidence that the small percentage of persons who did not reply would have answered in ways similar to those who did reply. Certainly the nature of our sample justifies a high degree of confidence in the representativeness of our results.

The data-gathering for this sub-study took place in the spring of 1959. In September of 1959 a brief preliminary report (see Appendix 4) was sent to all participants. Subsequently, a second report to participants was prepared and in the late spring of 1960 copies were sent to principals of all participating schools and to others who had requested copies in advance. The remainder of this chapter is a reproduction of the second report to participants. Part II of the appendices contains the questionnaires and form letters used in this sub-study.

TABLE I. Percent of questionnaire returns for the Student Information Study.

Questionnaires sent to:	Number sent	Percent returned filled out	Number reached*	Percent returned from those reached
Schools	591	94		
Principals	591	89	556	94
Counselors	261	88	247	93
Teachers	3501	78	3286	83
Students	1190	92	1160	94

Effects of School Size and Number of Counselors

One of our hypotheses was that two factors, (1) school size as measured by number of students and (2) the presence of one or more counselors on the school staff, would be significantly related to certain testing and counseling practices found in the school. Accordingly, the total sample of schools was divided into six groups on the basis of these two variables, as shown in Table II. The designations given these groups--

TABLE II. Number of principals and teachers in each of six school groups.

Group Sch. Size-No. Coun.	Total No. of Stu. in Sch.	No. Coun. on Sch. Staff	No. of Schools	No. of Principals	No. of Teachers
Large-Many	1000-5999	5-20	43	43	399
Large-Few	1000-5999	0-4	48	48	237
Med.-Some	300-999	1-6	107	107	484
Med.-None	300-999	0	51	51	218
Small-Some	100-299	1-3	62	62	255
Small-None	100-299	0	183	183	815
Total			494	494	2408

---

*"Number reached" means the number of persons to whom questionnaires were sent in those schools in which the principal agreed to distribute the questionnaires. For example, questionnaires were sent to 591 schools. In 556 of these schools, principals distributed the questionnaires to the designated faculty members. Of principals who did this, 94% returned their own individual questionnaires. Principals returning their own questionnaires were 89% of the 591 who received questionnaires. Questionnaires were not sent directly to counselors, teachers, or students, but reached them only through distribution by the principal.

that is, "Large-Many" "Large-Few", etc.--will be retained in all of the tables in this section. It will therefore be helpful to remember that the first word--Large, Medium, Small--refers to the size of the school, and the second word--many, some, few, none,--refers to the relative number of counselors on the school staff.

We first examined the number of types of standardized tests administered in the schools in these six groups. Table III shows the percent of schools in each group whose principals said they used each type of test. It can be seen at a glance that practically all schools, regardless of size or presence of a counselor, employed some type of intelligence and aptitude test, and that well over half carried on achievement and interest testing.

Closer inspection of the data reveals a rather consistent relationship between test use and school size, as well as between test use and presence of a counselor. Almost without exception, more large schools administered each type of test than did medium-sized schools, and more medium-sized schools administered each type than did small schools. And with only two minor exceptions (personality testing in large schools and intelligence testing in medium-sized schools) substantially more counselor schools administered each type of test than did schools with no counselors. The figures in the Small-None column, when compared with those of all other schools, provide the most striking evidence in regard to the relationship between school size, presence of a counselor, and test use.

TABLE III. Percent of schools in each group using each of six different types of standardized tests.

	School Group					
Type of Test	Large Many	Large Few	Med. Some	Med. None	Small Some	Small None
Intelligence	98	92	91	94	97	92
Scholastic Apt.	95	92	88	86	92	80
Sub. Matter Ach.	91	77	86	76	84	64
Reading Ach.	93	92	80	63	60	55
Interest	84	73	74	59	66	51
Personality	30	35	26	22	29	13

Relationships between these two school variables and test use become even clearer when we examine the total number of types of tests administered by the various schools. Principals in larger schools reported the administration of many more kinds of tests than did those in smaller schools.* In large schools 91% of principals reported that four or more kinds of tests are given, in medium-sized schools 76% of principals reported this, and in small schools only 58% of principals reported this. Principals in schools with relatively more counselors reported more kinds of tests administered then did those in schools with fewer counselors. In schools with relatively more counselors, 83% of principals reported four or more kinds of tests administered, while the figure in schools with fewer counselors is 60%. The percentages for each group of schools are shown in Table IV.

TABLE IV. Percent of schools in each group which administered three or fewer and four or more types of tests.

	School Group					
Number of Different Types of Tests Used	Large Many	Large Few	Med. Some	Med. None	Small Some	Small None
3 or fewer	2	14	18	37	26	47
4 or more	98	86	82	63	74	53

There are several possible explanations for the findings in Tables III and IV. Large schools are typically better off financially than small schools, hence would have more funds to expend on testing and counseling programs. Also, there would appear--on the surface at least--to be a greater need for such services in large schools due to the more varied curricula which students can enter, and the lessened opportunity for intimate contact between faculty and students. Smaller schools are typically pervaded with the feeling that "everybody knows everybody"; hence, the pressure of advising and working with hundreds of students who are practically unknown to one is not felt.

Our next though was: How do the faculty feel about the kinds of information obtained and placed in the school's cumulative record files? Do they believe that the information in their files is sufficient or insufficient? Responses of principals to this question are shown in the upper half of Table V, those of teachers in the lower half.

---

*Tabulations and statistical significance levels will not be given in connection with some of the simpler findings to be described. Nevertheless, all relations described in this report have a statistical significance of at least .05. Chi-square tests are used except where monotonic relations are specified; in these instances Smith's monotonicity test was applied. See Smith, J. E. K. On the analysis of contingency tables with ordered classifications. Lincoln Lab., Massachusetts Institute of Technology, 1956. Where an interaction between variables is mentioned, Lancaster's partition of chi-square was applied. See Lancaster, B. O. Complex contingency tables treated by the partition of chi-square. J. royal statist. Society, series B, XIII, 1951, 242-249; and Lancaster, B. O. The derivation and partition of chi-square in certain discrete distributions. Biometrika, 36, 1949, 117.

Again a consistent relationship is observed between our two school variables and staff attitude regarding school files. Significantly more principals and teachers in large schools and in counselor schools expressed satisfaction with their school's files than did principals and teachers in smaller and no-counselor schools. The effect of the counselor variable is particularly striking. Regardless of size of school, approximately half of all principals and over one-third of all teachers in no-counselor schools expressed dissatisfaction with the files. It is possible that this reflects the fact that, as shown in Table IV, the files in no-counselor schools are less well stocked with test data than are the files of counselor schools, although other possible explanations will be discussed later in this report.

TABLE V. Responses in percents of principals and of teachers in each group to the question, "Do you feel that the information in your school's files is sufficient?"

	School Group					
	Large Many	Large Few	Med. Some	Med. None	Small Some	Small None
Principals						
Files are sufficient	81	58	67	51	66	49
Files are not suffic.	19	42	33	49	34	51
No response	0	0	0	0	0	0
Teachers						
Files are sufficient	86	76	64	54	64	55
Files are not suffic.	12	24	34	43	35	42
No response	2	0	2	3	1	3

To learn more about the use of files by teachers in these six groups of schools, we asked principals and teachers the question: "About how many teachers in your school make it a point to look up the test scores of students?" Responses of principals are given in the upper half of Table VI, those of teachers are given in the lower half.

We found the data in this table exceptionally interesting. First, there is the striking inconsistency between principals' and teachers' perceptions about how many of the faculty use the files. As viewed by principals, significantly more teachers in multi-counselor schools look up the test scores of students than do teachers in no-counselor schools. But as viewed by teachers (who presumably have more direct information on this point than principals), this relation clearly does not hold. Second, there are the sizeable differences in the figures in the upper and lower halves of the table. Without exception a greater percentage of principals reported that more than half of their teachers engaged in this activity than the teachers themselves reported. Such differences were greatest in multi-counselor schools.

TABLE VI. Responses in percents of principals and of teachers in each group to the question, "About how many of the teachers in your school make it a point to look up the test scores of students?"

	School Group					
No. of Teachers who look up Test Scores	Large Many	Large Few	Med. Some	Med. None	Small Some	Small None
Principals						
Less than half	25	36	44	51	41	52
More than half	75	64	56	49	59	48
No response	0	0	0	0	0	0
Teachers						
Less than half	44	39	59	55	49	51
More than half	48	53	38	41	46	45
No response	8	8	3	4	5	4

Despite the differences in perception between principals and teachers, it is noteworthy that between 40% and 50% of the 2000 and more teachers in our sample reported that more than half of the teachers in their respective schools took time out to look up students' test scores.

In addition to asking specifically about test score information we asked principals the general question, "About how often do most of your teachers take time out to gather information about students?", and teachers "About how often do you take time out to gather information about students?" Responses of principals are shown in the upper half of Table VII, those of teachers in the lower half.

Principals and teachers were consistent in reporting that approximately 60% of the teachers in large schools spent an hour or more of time each week in this activity, whereas only 30% to 46% of the teachers in smaller schools spent this much time. Also, with the exception of teachers in large schools, both principals and teachers were consistent in reporting greater time spent in multi-counselor schools than in no-counselor schools. This last finding is important because it indicates that the presence of many counselors on a school faculty, rather than leading teachers to relinquish their information-seeking activities, apparently stimulates them to engage more extensively in such behavior.

TABLE VII. Responses in percents of principals and teachers to the question, "How often do your teachers (or do you) take time out to gather information about students?"

Amt. of time teachers spend gathering info. about students	School Group					
	Large Many	Large Few	Med. Some	Med. None	Small Some	Small None
Principals						
Hour per mo. or less	37	42	57	75	66	70
Hour per wk. or more	63	58	43	22	34	30
No response	0	0	0	3	0	0
Teachers						
Hour per mo. or less	38	31	51	60	52	54
Hour per wk. or more	60	66	48	40	46	44
No response	2	3	1	0	2	2

Still another interesting fact in Table VII is the size of the differences between the perceptions of principals and teachers, with the more sizeable differences in each sub-group occurring in few and no-counselor schools. One possible explanation is that counselors increase the accuracy of the principal's perception of teachers' activities by improving the communication between the principal and his faculty. Another is that the presence of counselors increases the principal's optimism about the general concern in his school with individual students.

We wondered if the heightened use of tests and of time spent in obtaining information about students in large and in multi-counselor schools might be associated with the type of methods employed by the school to disseminate test information to teachers. We asked principals the free response question, "How do your teachers learn of students' test scores once these are received by the school?" Principals reported the following four methods:

(1) Test results are placed in the files in the central office and any teacher who wishes may look them up.

(2) Test results are placed in the files in the principal's office, or in the guidance counselor's office, and any teacher who wishes may learn of them in consultation with the principal or guidance counselor.

(3) Test results are sent directly to each teacher who (in some schools) keeps them in own personal files.

(4) Faculty meetings are held at which test scores are discussed and some interpretations of them are given.

The percentages of principals using each method are reported in Table VIII. Of these four methods, Method 1 is essentially laissez-faire, whereas the other three provide for some type of controlled discussion and interpretation of test findings. Once again, the effect of the counselor is striking. The laissez-faire "look them up if you wish" attitude was much more prevalent in no-counselor schools, whereas multi-counselor schools apparently were providing teachers with more information than "John's I.Q. is 90 and Mary's is 110." It is reasonable to assume that greater--and probably better--use of test results occurs in schools where the administration provides for some type of enlightening discussion. It is possible, therefore, that the greater amount of time spent by teachers seeking information about students (Table VII) and the greater satisfaction with the school's files (Table V) which characterize multi-counselor schools is a direct result of better methods of disseminating test information to teachers.

TABLE VIII. Percent of principals in each group employing each of four methods of distributing test information to teachers.

	School Group					
Method of Distribution	Large Many	Large Few	Med. Some	Med. None	Small Some	Small None
1. Available to all	23	42	35	57	53	66
2. Available through counselor or principal	42	31	37	10	10	3
3. Kept in teachers' files	33	16	19	16	11	11
4. Faculty meetings	0	6	8	10	18	19
No response	2	5	1	7	8	1

We were somewhat surprised to find that group discussion of test results (Method 4) was used by almost one-fifth of the smaller schools--much more frequently than in medium-sized and large ones. The method is, of course, better adapted to small faculties and would appear to be of great value in involving the total staff in problems of using and interpreting test data.

Another aspect of the school which we subjected to study was the amount and kind of activity going on in the guidance and counseling area. In one section of the questionnaire we asked all principals the free response question, "Within the past two years, has your school made any innovations or changes in its testing program, its guidance program, or its counseling services?"

Table IX shows the percent of principals in each group that responded "no" to this question. It will be noted that lack of change was most frequent in small schools and in those with few or no counselors. We assume that although some of this "no change" results from lack of funds, some may well be associated with the absence of the tonic effect of the school counselor.

TABLE IX. Percent of prinicpals in each group who responded "no" to the question, "Within the past two years has your school made any innovations or changes in its testing program, its guidance program, or its counseling services?"

	School Group					
	Large Many	Large Few	Med. Some	Med. None	Small Some	Small None
No innovations or changes	5	15	16	22	20	26

Table X shows the types of changes reported by the principals in our sample. The three types are not mutually exclusive in that many schools reported change in more than one of these areas, and a few schools reported change in all three areas. It is immediately apparent that by far the greatest amount of internal reorganization is going on in the larger-sized schools, particularly those with many counselors. The differences discussed in the following paragraph, although clearly reliable, have not been tested for statistical significance.

The heaviest area of change was in testing, which area included such things as the addition of new types of tests, the substitution of newer tests for old ones, and the testing of more students than formerly.

TABLE X. Percent of principals in each group reporting each type of change in their guidance and counseling programs.

	School Group					
Type of change	Large Many	Large Few	Med. Some	Med. None	Small Some	Small None
Testing	55	46	51	51	65	63
Personnel	53	46	51	20	21	8
Schedules	42	29	21	22	18	16

Second (and a very close second in large schools) was the area of personnel. This area included the addition of new personnel in guidance, the freeing of subject-matter teachers so that they could devote more time to guidance and counseling, and the institution of entirely new programs in schools where formerly none existed. It seems highly significant that over 50% of all multi-counselor schools of greater than 300 students evidenced expansive changes in personnel. The third area of change, designated as schedules, included all internal changes made by the school to achieve a more adequate utilization of guidance services; for example, all changes in methods of scheduling conferences with parents and students, improved methods of organizing and filing information about students, and the institution of in-service training programs to improve teachers' knowledge of guidance techniques and methods.

We next turned our attention to teachers' use of tests in dealing with students and with parents. In different parts of the questionnaire we asked teachers these two questions: (1) In talking with students about their plans and problems do you discuss test results with them? and (2) In talking with parents about their children, do you discuss test results with them? Their responses are shown in Table XI.

Teachers in larger schools reported more frequent discussion of test results with students than did teachers in smaller schools. When persons not responding to the question are ignored, seventy-two percent of teachers in large schools said they engaged in this activity sometimes or frequently, 65% of teachers in medium-sized schools gave this answer, and 60% of teachers in small schools. The relation between relative number of counselors in the school and discussion of test results with students was not significant, nor was there any combined effect of size of school and number of counselors.

TABLE XI. Responses of teachers in percent to questions about the frequency with which they discuss test results with students and with parents.

Frequency of discussing test results:	School Group Large Many	Large Few	Med. Some	Med. None	Small Some	Small None
With students						
Rarely or Never	28	27	34	34	41	37
Sometimes or Frequently	70	70	62	65	57	61
No response	2	3	4	1	2	2
With parents						
Rarely or Never	34	40	47	54	60	54
Sometimes or Frequently	63	57	51	44	39	43
No response	3	3	2	2	1	3

Teachers in large schools also reported relatively greater frequency of discussing test results with parents. Again ignoring non-response, sixty-three percent of teachers in large schools said they did this sometimes or frequently, 50% of teachers in medium-sized schools said this, and 43% of teachers in small schools. Although teachers in the larger multi-counselor schools reported more frequent discussions of test results with parents, the combined effect of size of school and relative number of counselors was significant in such a way that teachers in small schools reported more frequent discussion of test results with parents if the school had no counselor, contrary to the trend in larger schools.

Looking at small schools, it seems a reasonable explanation of the figures to say that where there are no counselors the teachers must more frequently accept the duty of talking to parents about their children's test results. But would this not also be true in larger schools? Perhaps it is so, but perhaps other effects in the larger schools become more important. Throughout this section, we have seen a higher general level of activity and interest concerning guidance and counseling in the larger schools. Moreover, we have more than once noted an apparently "tonic effect" of having relatively more counselors in the school. Perhaps, in the larger schools, the general higher level of activity, combined with this "tonic effect," stimulates teachers to talk even more frequently with parents in multi-counselor schools than in schools where teachers have few or no counselors to help them with this kind of duty. The possibility of such a combined effect is lent credence by our finding that teachers in larger schools tend to teach fewer classes per day than teachers in smaller schools. This would permit teachers in the larger schools time to respond more actively to stimulation by counselors.

Summary. It is no surprise to find that large schools do things differently from small schools. We have seen in this section that in larger schools, compared to smaller schools, teachers were more active in seeking information about students and in using some of this information (test results) in discussions with students and parents. The larger schools, furthermore, provided more organized methods for supplying teachers with information and were more active in making changes in their counseling programs. Teachers in the larger schools more frequently expressed satisfaction with the information filed about students.

At first blush, it might seem that teachers would be less actively involved in getting and using information about students in schools where there are a number of counselors expressly assigned such duties. Yet we found in most instances the opposite to be true. The presence of relatively more counselors was impressive in its association with more time spent seeking information about students and more frequency of discussing test results with parents, as well as with more satisfaction with the school files, more organized methods of disseminating test results to teachers, more kinds of tests being used, and more innovations in the counseling program.

In seeking hypotheses to explain these results (and to suggest further research!) one might consider the possibility that schools with enough money to hire counselors also have enough money to purchase more tests, to give their teachers time to spend seeking information and talking to parents and so forth. But another hypothesis might be that activity stimulates activity: the "tonic effect" of the counselor.

In the next section, some of the practices and attitudes already reported, as well as some others, will be examined against the experience and training of the respondents.

Effects of Training and Experience

In this section our concern is with the different opinions and reports of practice given by persons with different amounts of training and experience. How does the principal, counselor, or teacher with long years of experience differ from the fledgling in his attitudes toward guidance and testing practices in his school? How does the person with a formidable array of degrees and advanced college courses differ from the one with a minimum of formal training?

As might be expected, we found that persons with longer experience and broader training tended to be in the larger schools, and that generally these schools were ones which had more counselors and more adequate guidance programs. Although this pattern held generally in the responses of principals, counselors, and teachers, there were several instances in which only one or two of these variables evidenced a significant relationship with certain test practices and attitudes, whereas the other variables did not. Our findings with regard to this cluster of variables are reported in the following sub-section.

Sufficiency of school files. When asked about the sufficiency of information in their school's cumulative record files, principals, teachers, and counselors of long experience more often regarded their files as sufficient than did their younger counterparts. Table XII reports data which indicate how strong this relationship was for counselors. Whether this finding reflects the fact that large schools typically have better financed guidance programs, or whether it reflects the feeling of complacency that frequently accompanies age and experience is difficult to state at this point.

TABLE XII. Percent of counselors with varying years of experience expressing satisfaction with their school's cumulative record files.

	My school's files are:	
Years' experience	Sufficient	Not sufficient
1-2	44	56
3-13	64	36
14-32	75	25

Testing as a way of getting information about students. All respondents were given a list of various ways of obtaining information about students, such as to observe the student, ask the student, administer a test, etc. They were then asked, "Suppose you wanted to obtain information about such things as performance in school subjects, family and home life, intelligence, etc. For each kind of information, check the way or ways you think are best for obtaining it." For each way of getting information, we noted whether the respondent checked it as one of the best ways to get *any* kind of information about students. In general, we found that as teachers with longer experience were examined, more and more of them were found to omit *some method* of getting information from the methods they marked as best ways to get *any kind* of information. For example, teachers with longer experience more often omitted "observe the student" as one of the best ways to get any of the kinds of information in the list.* This same tendency to drop out methods of getting information from preference as experience increased was observed in the case of these methods: ask the student, ask other students, ask other teachers, ask the parents, and administer a test. The only two methods which showed no significant diminution in preference were "ask other adults" and "check school records." Older teachers, therefore, when compared to younger teachers, tended to have relatively few favorite methods of getting information about students.

This pattern also characterized the responses of counselors, although to a much lesser extent. The methods of observing the student and asking the student showed sharp drops in preference, and asking other students and asking other teachers also diminished to some extent. The other methods of asking the parents, asking other adults, administering a test, and checking school records, showed no relation to experience. Principals failed to show any reduction in preferred methods save for the single method, observe the student.

Perhaps the most unexpected of these findings was the marked drop in preference all three groups showed for the method so widely recommended by most modern textbooks--namely--"observe the student." Is this because "observation" is a technique so consistently used by school people that they come not to regard it as something distinct and apart from other techniques? Or is it because experience teaches the person that "observation" *PER SE* provides essentially meaningless information?

Still another somewhat unexpected finding was that with increasing amounts of experience both principals and teachers were *less* likely to state that standardized tests were among the best ways of obtaining information about students' intelligence. This might be interpreted as an indication that the experienced teacher or principal has learned that the data provided by a single test score is not only limited--it is sometimes false!

---

*This decrease, as well as all other decreases reported for teachers, counselors, and principals, was significant at the .05 level; most were significant at .005.

Confidence in tests. In another section of the questionnaire we presented the respondents with three different statements about tests and asked them to indicate which statement more closely resembled their own attitude. The statements were:

A. A test score is a vlauable piece of information which answers many of the questions I have about students.

B. A test score is a valuable piece of information useful in raising important questions in my mind about students.

C. A test score is an interesting piece of technical information, but possesses little or no value for the ongoing activities of the classroom.

These statements were designed to provide a rough indication of school people's general attitude toward tests. Statement A implies a fair amount of confidence in the value of test data and Statement C implies essentially zero confidence. Statement B lies somewhere between these extremes, implying that although tests are "useful" they tend to raise questions in teachers' minds, the answers to which the teacher must seek elsewhere.

The distribution of answers to these three statements, as shown in Table XIII, reveals that more principals than teachers or counselors accept Statement A. It is probable that this preference reflects the nature of the "questions" principals typically ask of test data, namely, questions about where their school stands on national norms, and the like. Counselors, on the other hand, prefer Statement B, indicating a more quizzical, less accepting attitude. Interestingly enough, very few respondents prefer Statement C, and those few are teachers.

TABLE XIII. Percent of respondents selecting the indicated statement about tests

	Principals	Teachers	Counselors
Statement A	50	41	38
Statement B	50	53	62
Statement C	0	6	0

When we examined the relationships between individuals' preferences for these statements and the amount of formal education they had had, we found that a relationship existed for teachers, but not for principals or counselors. Teachers who chose Statement C were found disproportionately among those having less than the master's degree, while teachers at the master's-degree level tended to prefer Statement A. Statement B teachers, however, were found both among those with less than the master's degree and among those with more. Clearly, increasing amounts of formal education do not lead school people to an overwhelming acceptance of a quizzical attitude towards tests. Furthermore, when we asked specifically how many courses in the technicalities of testing the respondent had taken, we found no association between more courses and preference for Statement B. Among principals and teachers, in fact, more courses in testing were more often found with a preference for Statement A.

In Sub-study D (see Chapter V), however, in which these same three statements were given to a different sample of teachers, we found a strong relationship between the preferred statement and the teacher's knowledge of testing as measured by a written test. As Table XIV shows, teachers with high test scores preferred the more quizzical Attitude B, whereas teachers with lower test scores preferred the more confident Attitude A, or the rejecting Attitude C.

TABLE XIV. Percent of teachers with different levels of knowledge about tests who held different attitudes toward tests (N = 346).

Test Knowledge Score	Attitude B (Quizzical)	Attitude A (Accepting)	Attitude C (Rejecting)
42-54	78	22	0
36-41	70	28	2
26-35	55	40	4
20-25	46	46	6
10-19	53	35	12

Disseminating test information to parents and students. Turning now to the reports of respondents about the dissemination of test results in their schools, we found a difference between the reports of principals with much formal training and those with comparatively little. Although by far the majority of all principals state that their schools give out test results to students and to parents, the practice is almost universal among those with maximum training. Among principals with the equivalent of master's degrees, 88% and 82% say that their schools follow this practice with students and with parents respectively, whereas among principals with higher levels of education, 96% and 91% say so.

Examination of teachers' responses to these questions revealed that amount of formal education was significantly related to teachers' knowledgeability of their school's practices regarding the dissemination of test information, as shown in Table XV. Although a fairly sizeable proportion of each group evidenced uncertainty, the proportion was much greater among individuals with lower levels of training.

TABLE XV. Percent of teachers who answer "uncertain" when asked whether their schools give test results to parents or students, by level of education.

Educational Level	Percent uncertain whether results are given to parents	Percent uncertain whether results are given to students
Less than master's	44	31
Master's or more	37	21
N	2673	2668
p	<.005	<.005

Respondents were also asked how often they themselves discussed test results with parents and with students. We found that reported frequency of discussing test results increased for counselors and teachers with higher formal education, and that it increased also for principals and teachers having more courses in the technicalities of testing. These results are given in Tables XVI and XVII.

TABLE XVI. Percent of respondents saying they discuss test results "frequently" with parents or students, by educational level.

	With parents:		With students:	
Educational level	Counselors	Teachers	Counselors	Teachers
Less than master's	29	9	52	14
Master's or more	57	14	77	21
N	226	2759	227	2651
p	<.02	<.005	<.02	<.005

TABLE XVII. Percent of respondents saying they discuss test results "frequently" with parents or students, by number of courses in technicalities of testing.

	With parents:		With students:	
Courses in testing	Principals	Teachers	Principals	Teachers
Two or fewer	34	10	52	15
Three or more	48	20	65	31
N	512	2618	512	2634
p	<.001	<.001	<.03	<.001

There was no relation between formal education and discussing test results among principals, and none between courses in testing and discussing test results among counselors. Table XVIII shows the groups among which these relationships were significant.

TABLE XVIII. Summary of relations between education and training and discussion of test results with parents and students.

Question asked	Educ. Level			Courses in testing		
	Prin	Coun	Tea	Prin	Coun	Tea
Discuss test results with parents?	NS*	Sig	Sig	Sig	NS	Sig
Discuss test results with students?	NS	Sig	Sig	Sig	NS	Sig

It is our hypothesis that educational level failed to show a significant relationship among principals because as a group our principals were nearly all at or above the master's level and that this is the critical level for increases in discussing test results. The absence of a significant relationship between courses in testing and discussion of test results for counselors, however, requires a somewhat more involved explanation. It is possible that two factors are operating here: (1) ability and confidence given by education and training, and (2) role legitimacy. That is, people may discuss test results more if they feel competent to do so, or if others expect them to do so. Hence, counselors may engage in this practice without regard to special technical training because they--and others--feel it is their duty. Principals and teachers, on the other hand, are not subjected to these pressures to the same extent.

The findings just discussed imply that more training, both general and technical, goes along with greater readiness to discuss test results with students and parents unless role prescriptions override this effect. Shifting our attention for the moment from experience and training to this matter of the effects of role-taking, another finding may be mentioned which is consistent with the above and also casts light on the counselor's perception of his role.

Principals, counselors, and teachers were asked how much training in the technicalities of testing they thought a principal ought to have, and also how much a teacher ought to have. The results are shown in Table XIX.

---

*NS indicates that the relationship was not statistically significant; Sig indicates that it was.

TABLE XIX. Percent of respondents giving indicated answers concerning how many courses in testing principals and teachers should have.

Respondent	Percent saying principals should have three or more courses	N for 100%	Percent saying teachers should have two or more courses	N for 100%
Principals	64	518	67	517
Teachers	68	2657	58	2667
Counselors	49	223	57	224
p	< .01		< .01	

Here we see that principals and teachers agreed closely on how many courses in testing a principal should have, but far fewer counselors than teachers or principals felt that principals should have three or more courses. If the counselor sees his role as including special expertness in testing, he would be less likely to feel that the principal needed special training in the testing specialty, and this finding would be expected. Consistent with this interpretation is the finding that fewer counselors than principals recommended two or more courses in testing for teachers.

Time spent seeking information about students. On the average, teachers estimated that they spend about 12 hours per semester taking time out to gather information about students; on the other hand, principals estimated that teachers took about 9 hours per semester, on the average. Thirty-eight percent of principals estimated that their teachers spent one hour per week or more seeking information about their students, but 50% of teachers reported spending this much time.

Principals with more experience gave higher estimates of the amount of time their teachers spent seeking student information. And, as Table XX shows, teachers with more years in teaching and those with more courses in testing reported more time than teachers with fewer courses and less experience. Although one would expect that teachers with longer experience would have more courses in testing, it seems significant that teachers who combined more years in teaching with more courses in testing spent proportionally more time seeking student information than did teachers who were higher than others only in experience or only in number of courses in testing.

TABLE XX. Percent of teachers with varying experience and training who spent the indicated amount of time in seeking information about students.

	Years of Teaching Experience					
	1-6		7-13		14-15	
Time spent seeking info.	0-1 courses	2-3 courses	0-1 courses	2-3 courses	0-1 courses	2-3 courses
Hr. per mo. or less	40	13	31	18	29	15
Hr. per wk. or more	31	16	27	24	24	32
Total	100%		100%		100%	

Conferring with the counselor. Communication about students between teacher and counselor was found to be related to the experience of the counselor. Among counselors with one to three years' experience only 45% stated that more than half the teachers came to them during the year to talk about students, while 69% of counselors with more than three years' experience said this.

Summary. Training and experience were found to be related to a number of other variables. Principals with more experience, compared to principals with less, were more often found to say that the school files were sufficient, that their schools gave test results to students, and that testing was not one of the best ways to get information about the intelligence of students. Principals with more courses in the technicalities of testing, compared to those with fewer, more often preferred a statement saying that a test score "answers many of the questions I have" to one saying that a test score is "useful in raising important questions."

Like principals, teachers with longer experience more often felt the school files to be sufficient and omitted mention of tests as one of the best ways to get information about intelligence. Teachers showed a clear tendency, with increasing experience, to reduce the number of ways of getting information about students which they mentioned as "best ways." Teachers with longer experience also reported more time spent seeking information about their students.

Like principals, teachers with more courses in testing more frequently preferred a statement emphasizing the answers given by test scores to a statement emphasizing the questions raised by test scores. On the other hand, teachers who scored higher on an objective test of the technicalities of testing, compared to those who scored lower, more often preferred the statement emphasizing the raising of useful questions by test results. This latter finding was obtained from a sample of schools different from that providing the other findings in this report.

Counselors with more experience, compared with those with less, reported more of the faculty coming to them to discuss students.

Some suggestions were obtained about the counselor's view of the competencies his role calls for. While principals and teachers were more likely to report discussing test results with parents and students when they had had more courses in testing, counselors discussed test results with parents and students regardless of their number of courses. Further, while two-thirds of principals and teachers believed that principals should have three or more courses in testing, only about half of the counselors said this.

Satisfaction with Existing Practices and Attitudes

In the preceding section, we pointed out a tendency toward a general feeling of comfortable optimism about the school's guidance and counseling program on the part of people with longer experience, people in large schools, and people in schools with relatively more counselors. Evidence of this feeling was also found earlier in Table VI. Using teachers' estimates as probably the more accurate, the table showed that principals in small no-counselor schools gave about the same estimate as their teachers of the proportion of the faculty who make it a point to look up the test scores of their students. Principals in schools with more counselors and principals in larger schools, however, increasingly over-estimated the proportion of the faculty who did this.

To explore this idea further, we constructed an index from certain of the questions in the questionnaire which reflected the respondent's satisfaction with the information available about students in the school, with the ways of getting information about students, and with his colleagues' attitudes concerning the value of tests. For brevity, we called this index the "satisfaction index." The individual receiving a maximum satisfaction score would be one who, through his answers to the various questions composing the index, indicated the following beliefs:

> "The school's files are sufficient and there is no kind of information of primary importance to teachers which they do not contain nor that I would obtain if I had the opportunity. Of the tests which the school presently administers, all of them ought to be administered, and there are no additions I would make if I had the opportunity. I am (or my teachers are) spending as much time as I feel I ought to spend in gathering information about students. Further, my general attitude regarding the worth or the usefulness of tests is shared by a majority of my colleagues."

By contrast, the individual who received a low satisfaction score indicated that:

> "The school's files, as well as its testing program, lack several types of information of importance to teachers. I feel (or my teachers feel) that I am not able to spend as much time as I ought to spend in gathering information about my students, nor are my attitudes about the usefulness of tests shared by a majority of my colleagues."

As a first step, we grouped principals, teachers, and counselors on school size, number of counselors, and length of experience and examined their satisfaction indices. As expected, principals in larger schools and in multi-counselor schools showed significantly higher indices. Further, principals, teachers, and counselors of long experience showed significantly higher indices than did those with shorter experience.

We also tested the hypothesis that teachers with more time to spend in seeking information would show higher satisfaction indices, since they would supposedly experience less frustration in obtaining information and therefore would feel information practices to be more satisfactory. We did indeed find that teachers who taught relatively fewer classes per day had higher satisfaction indices, but we also found that teachers with more students per class also showed higher satisfaction. Both these findings may be due to the factor of school size, since teachers with fewer but large classes were found relatively more often in the larger schools.

One of the questions asked of principals was whether any innovations had been made during the last two years in the school's guidance and testing program. It seemed reasonable to predict that principals who reported innovations would feel that their schools were moving in the right direction and would be found more frequently among those with higher satisfaction indices. This was indeed the case, but here again, the finding may be part of the general optimism concerning information practices in larger schools, since principals in larger schools more often reported innovations than did those in smaller schools.

We did, however, discover some relations with the satisfaction index which seem to have meaning beyond the pervasive feeling of satisfaction in the larger schools. One was that counselors who answered "no" when asked whether the school gave test results to parents, showed lower indices of satisfaction than counselors who responded "yes." Further, when asked how test results were conveyed to parents, counselors who described structured practices such as holding scheduled conferences with parents were those who more frequently showed higher satisfaction indices.

Among teachers, the satisfaction index was related to their judgment of the value of test scores. Lower satisfaction was more prevalent among those who preferred the statement, "Tests raise questions in my mind", while higher satisfaction was more prevalent among those preferring the statement, "Tests answer my questions."

Satisfaction with information practices was clearly related to opinions about testing as a good way to get information about students. Oddly enough, people with higher indices less frequently felt that testing was one of the best ways to get information about students' intelligence or indeed one of the best ways to get any kind of information about students, as Table XXI shows. Perhaps a complacency component of the satisfaction index is in evidence here.

TABLE XXI. Percent of satisfied and dissatisfied counselors, principals, and teachers indicating that tests are one of the best ways to obtain information.

Tests are best for intelligence.

Group	High satisfaction index	Low satisfaction index
Counselors	62	70
Principals	55	71
Teachers	58	75

Tests are best for at least some kinds of info.

	High satisfaction index	Low satisfaction index
Counselors	71	84
Principals	78	88
Teachers	76	87

Our findings with regard to the satisfaction index led us to a more precise statement of our hypothesis about the over-optimism which seems to pervade large, multi-counselor schools. Specifically, when people are surrounded by evidences that efforts are being made to gather information about students and to put it to good use, they will have a feeling that, in general, information is being gathered and is being put to good use, and their estimates about these matters will sometimes exceed the facts. Easily visible efforts would include the existence of counselors in the school, a well organized cumulative file, a regular testing program, and the like.

If this hypothesis is sound, we should expect to find some evidence that the satisfaction exuded by the faculty is not matched by at least some of the results to be expected. That is, if large multi-counselor schools genuinely have better and more comprehensive guidance programs, the students in those schools should differ from students in less fortunate schools in their attitudes toward and perceptions of the guidance services. But if the excellence of the program lies largely in the optimistic attitudes of the faculty, we would expect no differences to be found among the recipients of all these efforts.

We turn, then, to a study of the individuals about whom all the shouting is about--the students.

Reactions of Students

As mentioned at the beginning of this report, we randomly selected

40 schools* from the population of public high schools of five hundred and more students, and sent special questionnaires to 30 randomly selected eleventh graders in each school. Of these 40 schools, 39 responded--a total of 1,096 students. Before discussing our findings in regard to these thousand and more individuals, it is necessary to hold in mind that although the schools and students were randomly drawn, the schools comprised only 39 of the 556 discussed in the earlier portions of this report, and that the students studied in each school constituted no more than six percent of the students in the school. Further, only Juniors were studied.

At the close of the last section, where we discussed the general satisfaction of school people with the processes of getting and using information about students in their schools, we proposed the hypothesis that some of the heightened satisfaction of people in larger schools and in multi-counselor schools might be due more to optimism over the efforts being made than to accurate appraisal of the results being obtained. Some opinions of students indicate, at least, that several gaps remain to be filled. For example, when asked, "Do you think that your teachers spend as much time as they ought to spend in getting to know their students?" three-quarters of the students in our sample answered "no." When asked, "When you want to talk over your plans and problems with someone, to whom do you usually go?" only seven percent of girls and eleven percent of boys mentioned a member of the school staff. We should also report, however, that when students were specifically asked, "Is there anyone *in school* with whom you talk over your plans and problems?" forty-five percent of girls and forty-eight percent of boys mentioned a member of the school staff.

In addition to these rather general indications of a need for more communication with students, we also found more specific evidence in relation to size of school and number of counselors. When asked about what particular kinds of information their teachers had about them and also about what particular kinds of information their teachers *ought* to have about them, there were great discrepancies between the percentage of students saying their teachers *ought* to have certain kinds of information and the percentage saying their teachers actually *had* this information. Furthermore, the discrepancies in larger schools or in schools with relatively more counselors were no smaller than the discrepancies in smaller schools or in those with fewer counselors. These results, to be discussed in more detail below, are shown in Table XXIII.

---

* Schools were selected in which Juniors had taken the tests of the Statewide High School Testing Program conducted by the Unit on Evaluation, Bureau of Educational Research, University of Illinois. No schools in the city of Chicago were included. Of the 120-or-so public schools of over 500 enrollment outside Chicago, 109 participated in the Statewide Testing Program in 1958-1959.

In Table XXIV we shall see that from one-third to two-thirds of the students in the different groups of schools in our sample reported having gone to a counselor to talk over their plans and problems. Furthermore, the percentage of students reporting visits to the counselor were proportionally higher in schools with more counselors. Nevertheless, students in schools with more counselors, compared to those in schools with fewer, gave no clearer answers when asked to tell how much education was required to enter their chosen occupations or when asked to describe what persons in their chosen occupations actually do. Figures on this latter finding will be found in Table XXV.

When asked who most influenced them in their choice of occupation, and when asked from whom they found out about the requirements for their chosen occupation, the percentages of students naming teachers and counselors did not differ with size of school or with relative number of counselors in the school.

At least in regard to the findings just cited, we can say that the higher satisfaction with counseling activities in larger schools and multi-counselor schools was not reflected in differential effects on the students. It may be, of course, that we did not examine the right questions; there may still have been attitudes and perceptions in which students in larger and multi-counselor schools would have differed from students in smaller and no-counselor schools.

We shall now present the above findings in more detail, after which we shall go on to report some further findings among the students' responses.

Schools with student respondents were divided into groups according to size and number of counselors, using the same scheme shown in Table II, on page 3.* Table XXII shows how these 37 schools were distributed among our medium and large-sized school groups.

---

*Because of the necessity for comparisons with data given in earlier sections of this report, and because two principals did not furnish such comparison data, only 37 schools are included in the tabulations in this section in which schools are categorized by size and number of counselors.

TABLE XXII. Number of schools and student respondents in each of four school groups.

School Group	No. of Schools	No. of Students
Large School--Many (5-20) Counselors	11	316
Large School--Few (0-4) Counselors	10	285
Med.-sized School--Some (1-6) Counselors	14	393
Med.-sized School--No Counselors	2	57
Total	37	1,051

One of our first questions to students was, "What kind of knowledge do your teachers have about you?"--followed by the question, "What kind of knowledge ought your teachers to have about you?" Their responses are given in Table XXIII. Several striking facts are immediately apparent. First, the figures in the "Have" columns reveal little difference among school groups in teachers' knowledgeability about students, either in terms of school size or relative number of counselors. This is unexpected in the light of the greater information gathering activity of teachers in counselor schools reported in the earlier section on the effects of school size and number of counselors. Does the extra time devoted to information-seeking by teachers in large schools fail to have results visible to the

TABLE XXIII. Responses of students in percents to questions about the kinds of knowledge teachers have and ought to have about them.

	Large-Many		LArge-Few		Med.-Some		Med.-None	
Kind of Knowledge	Have	Ought	HaVe	Ought	Have	Ought	Have	Ought
School Achievement	84	57	84	54	87	49	91	63
Gen. Intelligence	73	62	71	56	72	50	72	65
Personality	71	61	75	55	73	51	77	60
Interests	11	61	15	61	14	59	16	65
Aspirations	14	59	14	56	10	54	16	63
Fears	1	34	3	34	2	24	5	23
Home-life	2	26	5	29	5	30	7	42

students? Or is it that since teachers in large schools frequently have more students in their classes, the teachers must spend more time per week to obtain the same amount of information per student?

Second, looking once again at the "Have" columns we observe that--as viewed by *students*--most teachers know things such as a student's school grades, general intelligence, and personality characteristics (perhaps the more superficial characteristics), but are overwhelmingly judged ignorant of deeper, less obvious qualities such as interests, ambitions, fears, and home-life. Here again we would expect to find some difference in favor of counselor schools, but the slight differences (not statistically significant) which exist favor the *no*-counselor schools.

Third, comparisons of the figures in the "Have" and the "Ought" columns provide much food for thought. In the upper half of the table the "Ought" percentages are consistently and significantly lower than the "Have" percents, but in the lower half of the table the "Ought" figures double, triple, and sometimes more than quadruple the "Haves." Are students saying that teachers know too much about unimportant things and too little about the things that really matter? To put it another way, perhaps students are saying, "Yes, my teachers know all about my grades in school and how smart I am, but they don't know a thing about what I'm really interested in and the problems I have."

Unfortunately we have no way of knowing precisely how these students interpreted the word "Ought", or what they intended when they did *not* check a particular kind of knowledge in this column. The presence of a check in the "Have" column followed by the *absence* of a check in the "Ought" column could be interpreted as meaning either,

(1) Teachers know this about me but they shouldn't have this knowledge; i.e., they "ought not" to have this knowledge.

or (2) Teachers know this about me but it doesn't matter whether they have this knowledge or not.

In any event, the amazing consistency of students' responses over school groups as well as over the kinds of knowledge teachers have and "ought" to have lends support to the assumption of uniform interpretation among respondents.

We wondered if the greater activity and more extensive programs in guidance and testing in counselor schools was having any kind of differential effect on students in these schools as contrasted with students in schools with more limited programs. We believed that these effects, if they existed at all, would be more likely to be found in students' use of guidance and counseling services, and in the amount and accuracy of students' knowledge about themselves and their future occupational plans.

Data on students' use of guidance services are provided in Table XXIV. Responses of students to the question, "Have you ever gone to the guidance counselor to talk over your plans and problems?" are given in the upper half of this table; responses to the question, "How many of the other students in your school go to the guidance counselor to talk over their plans and problems?" are given in the lower half.

TABLE XXIV. Responses of students in percents to questions about their use of their school's guidance and counseling services.

Extent of Use	School Group Large-Many	Large-Few	Med.-Some	Med.-None
Do you go to the counselor?				
Yes	69	53	60	28
No	27	40	36	54
No response	4	7	5	18
How many others go to the counselor?				
More than half go	61	49	52	18
Fewer than half go	35	45	44	67
No response	4	6	4	15

The fact that a few of the students in our "no-counselor" schools responded positively to these questions indicated that these schools probably have one or two subject matter teachers who are assigned some counseling responsibilities.* In our study, however, we classified as "counselor schools" only those with persons who devoted half or more time to this activity.

The data in Table XXIV show that between one-third to two-thirds of students avail themselves of the guidance services the school provides, and that extent of use is directly related to the number of counselors available.

Data on certain aspects of the effectiveness of the schools' guidance programs--effectiveness being measured in terms of the amount and accuracy of students' knowledge regarding their future vocational plans--are given in Table XXV. We first asked students to state the occupation they were considering as their possible life's work, and then asked them two questions about this occupation:

---

*There is also the possibility that some students interpreted the word "counselor" in the sense of "advisor."

1. How much education is required for this type of work?*

and 2. What does a person in this type of work actually do?

TABLE XXV. Students' responses in percents to questions about educational requirements and duties of preferred occupations.

Question	School Group			
	Large-Many	Large-Few	Med.-Some	Med.-None
How much education is required?				
Gave precise, specific answer	73	73	70	81
Gave vague or imprecise answer	23	25	27	19
No response	4	2	3	0
What does the job consist of?				
Gave precise, realistic answer	66	74	80	79
Gave vague or idealistic answer	26	21	15	19
No response	8	5	5	2

We evaluated their responses to these questions in terms of the precision and specificity of their answers, on the assumption that "good" guidance would result in greater accuracy of knowledge. Responses to the first question are given in the upper half of Table XXV; responses to the second question in the lower half. From these data it appears that well over two-thirds of all students have their feet on the ground regarding their future vocational plans. This finding, coupled with the absence of consistent and significant differences between students in counselor and no-counselor schools leads to the conclusion that much of students' vocational knowledge is acquired outside the counselor's office.

Some support for the validity of this conclusion can be found in Table XXVI. This table provides data about the sources of influence which led students to the particular vocational choice they made, as well as about the sources from which they obtained information concerning the requirements and demands of this occupation. Students' responses to the question,

---

*Certain items in the students' questionnaire were used with the kind permission of Dr. Warren D. Gribbons. A complete list of Gribbons' interview items can be found in Gribbons' unpublished doctoral dissertation, "Determination of Progress in Educational and Vocational Planning in Adolescence," Harvard Graduate School of Education, Cambridge, Massachusetts; or by writing him at Clark University, Department of Education, Worcester, Massachusetts.

TABLE XXVI. Responses of students in percents to questions about source of occupational influence and knowledge.

Student Response	School Group			
	Large-Many	Large-Few	Med.-Some	Med.-None
My choice was most influenced by:				
My own thinking and reading	81	85	81	91
My family and friends	14	11	13	7
My teachers and counselors	1	1	3	2
My test scores	2	1	1	0
No response	2	2	2	0
I obtained my info. mostly from:				
My own thinking and reading	44	51	40	29
My family and friends	27	21	33	44
My teachers and counselors	22	22	24	26
No response	7	6	3	1

"What led you to consider this occupation?" are given in the upper half of Table XXVI; their responses to the question, "How, or from whom, did you find out about the requirements for this type of work?" are given in the lower half. It is evident that students' decisions about their futures are on the whole arrived at independently, and that over three-fourths of all students obtain their information about their chosen occupation from sources outside the school. This finding was unexpected in the light of the tremendous emphasis now being placed upon interest testing and vocational guidance. And again, no significant differences appeared between sizes of schools or schools with different numbers of counselors.

We now turn to some further kinds of findings among students. To discover whether guidance services were used more or less equally by all students, or whether disproportionate amounts of time were expended on specific groups of students, we turned our attention to a study of differences associated with curricular choice. Each student was asked to state which of three curricula he was enrolled in; College Preparatory, Business or Commercial, or Vocational (i.e., Home Economics, Industrial Arts, etc.). These data are reported in Table XXVII.

TABLE XXVII. Percent of students enrolled in various high school curricula.

Curriculum	Sex		
	Male	Female	Total
College Preparatory	25	23	48
Business or Commercial	5	22	27
Vocational	13	7	20
Other	2	3	5

As Table XXVII shows, approximately half of the students were enrolled in the college preparatory curriculum, and half in business and vocational curricula. We asked each student the question, "Do your teachers spend enough time getting to know their students?" From their answers, reported in Table XXVIII, it was apparent that no discrimination existed among curricular groups. Approximately three-fourths of all students felt their teachers did not spend sufficient time in getting to know them, regardless of whether their future plans were college, business, or vocational.

However, when we examined these three curricular groups on their awareness of the school's testing program we obtained a somewhat different picture. When asked whether their school participated in the Illinois Statewide High School Testing Program (and all of their schools did) we obtained the responses shown in Table XXIX. The greater awareness of the school's testing program among college-bound students, although obviously due in part to present day emphasis on tests as an admission requirement, is probably enhanced by the fact that counselors spend more

TABLE XXVIII. Responses of students in percents within various curricula to the question, "Do your teachers spend enough time getting to know their students?"

Curriculum	Yes	No
College Preparatory	26	74
Business or Commercial	23	77
Vocational	28	72
Other	26	74

TABLE XXIX. Responses of students in percents within various curricula to the question, "Does your school participate in the Illinois Statewide High School Testing Program?"

Curriculum	Yes	No	Uncertain
College Preparatory	74	0	26
Business or Commercial	65	0	35
Vocational	64	0	36
Other	54	3	43

time discussing test results with college preparatory students than they do with others, as shown in Table XXX.

TABLE XXX. Responses in percents to the question, "Does the counselor discuss your test results with you?"

	Counselors discuss test results with me:			
Curriculum	Never	Rarely	Sometimes	Frequently
College Preparatory	15	14	42	29
Business or Commercial	23	21	40	16
Vocational	26	21	38	15
Other	37	18	45	9

As a point of general interest, we present in Table XXXI some figures on curricula and occupational choice. Students were asked to check which curriculum they were in: college preparatory, commercial, or vocational. Of 1,096 students, a few checked more than one or failed to respond to the question at all, and are omitted from the table. Students were also asked what occupation was their first choice among those they had thought about as their life work. These were classified roughly, although not entirely, according to the categories used in the Dictionary of Occupational Titles of the U. S. Employment Service. The categories we used are suggested by the examples given in the first column of Table XXXI. Although there is not a perfect association between curriculum and occupational choice, the association is strong and statistically significant.

TABLE XXXI. Percent of students in each curriculum having first occupational choice in indicated categories.

	Females			Males		
Occupational category	College prep.	Commercial	Vocational	College prep.	Commercial	Vocational
Scientist, engineer, architect, accountant, pharmacist, etc.	7	3	1	43	12	11
Physician, lawyer, teacher, clergy, social scientist, etc.	71	11	38	27	12	6
Aviator, athlete, draftsman, artist, entertainer, laboratory technician, etc.	8	3	6	10	9	10
Salesman, secretary, model, clerk, etc.	10	68	19	2	16	2
Farmer, rancher, police, fireman, armed services, beautician, repairman, electrician, mechanic, carpenter, etc.	1	8	31	11	38	67
Semi-silled and unskilled.	0	0	0	1	3	1
Housewife.	1	4	5	0	0	0
Vague descriptions and no response.	2	3	0	6	10	3
Percent totals	100	100	100	100	100	100
Number totals	247	241	83	270	58	145

Summary

The central aim of the study reported in this chapter was that of discovering how teachers, counselors, and administrators view the guidance and testing practices followed in their particular schools. The data consisted of the responses of approximately 500 principals, 3500 teachers, and 200 counselors in Illinois high schools of greater than 100 students. All such schools were sent questionnaires, and of these, 94% participated in the study, thereby providing data which are highly representative of the state as a whole. In addition, over 1000 eleventh grade students in 38 randomly selected schools responded to questionnaires especially designed to provide data about the attitudes and perceptions of these--the recipients of the guidance and counseling effort.

Although certain of our findings were mundane, most were revealing, several unexpected, and a few startling.

Chief among our anticipated results was the finding that the greatest amount of guidance and testing activity is going on in the larger schools which are staffed by the better trained and more experienced administrators, teachers, and counselors. Of significance, however, was the finding that the presence of well-trained counselors on a school's faculty, rather than relieving teachers of their feelings of responsibility in this area, serves to increase the amount of guidance activity on the part of the total school staff. Accompanying this tonic effect of the counselor on the school's program is a strong halo effect regarding its adequacy on the faculty as a whole, and most especially on the school's principal. The principal whose staff contains several counselors and whose files contain a wealth of test data is very prone to over-estimate the amount of time his teachers spend in availing themselves of this material, and both he and his teachers are prone to regard their program with feelings of comfortable optimism. Despite this understandable halo effect, however, it is true that in contrast to small, no-counselor schools, the large multi-counselor schools have more comprehensive testing programs, employ more adequate methods of disseminating test information to teachers, and that teachers spend more time in actively seeking information about students as well as in discussing this information with them and with their parents.

Our most startling findings resulted from our search for expected differences among students in multi-counselor and no-counselor schools. Surely students in schools where markedly greater amounts of time, money, and effort were expended in guidance activities would exhibit attitudes and perceptions different from those of students in schools where the guidance effort was relatively limited. None were found. In both types of schools students were consistent in the feeling that their teachers lacked the kinds of knowledge about them that teachers ought to possess. Also, in both types of schools the majority of students reported that the amount and kind of knowledge they possessed about possible vocational plans and occupational careers were obtained from sources outside the counselor's office as well as outside the school.

Tentative explanations of the above and related findings are discussed in the body of the report.

Chapter III

SUB-STUDY B: THE FAIRVIEW INSTITUTE

At the time the present research project was organized, Fairview* High School--one of the largest schools in the state--invited the Unit on Evaluation of the University of Illinois to provide an in-service workshop in testing and measurement for selected faculty members. Because the chief investigator of the project and the consultant who was to conduct the workshop were one and the same individual, we believed that this happy coincidence would afford an unusual opportunity to observe the effect of training in testing on teachers' attitudes and perceptions. The Fairview sample was small and had been pre-selected on criteria unrelated to the research project *per se*, but this fact was considered of little importance in the light of the valuable clues regarding the nature and conditions of change which might be obtained. Accordingly, the Fairview Institute was made an integral part of the total study, all emphasis being placed on a qualitative, clinical, subjective approach to the problem of assessing behavioral change among teachers in the area of testing and test use.

The Sample

Fairview High School, although housed in two buildings (East and West), is under a single administration. The institute sample consisted of teachers from both schools; eleven from Fairview East and four from Fairview West. These fifteen teachers had been selected on the following criteria:

1. Interest on the part of the teacher in the specific nature and content of the institute; i.e., tests and their use.
2. Broad representation of subject matter teaching fields.**
3. Reasonable expectation that the teacher would remain in the school for some time to come.

None of the members of this sample entertained the ambition of becoming an expert in testing, nor was any participant slated to become responsible for some area of the school's testing program. Rather, each individual was expressly interested in acquiring knowledge which would make him more competent to perform the teaching duties in the field in which he had been trained.

---

*Actual name disguised.

**Subject fields were represented as follows: English, one; Foreign Language, two; Social science, two; Mathematics, one; Natural science, three; Commercial, one; Industrial Arts, two; counseling, three.

As a rough check on the extent to which this small group of teachers was representative of other teachers in the state in schools comparable in size to Fairview each member of the sample was given the teachers' questionnaire used in Sub-study A (see Appendix 3) and a test of Knowledge and Interpretation of Tests (Appendix 6). This test, called the KIT, is more fully described in Chapter V.

In almost every aspect examined, the Fairview group was like the teachers in the large, many-counselor schools of Sub-study A. The two groups were very similar in educational level, kinds of tests desired to be administered in the school, number of courses in testing believed appropriate for teachers and principals, and confidence in the information yielded by test scores. KIT scores of the Fairview group were compared with the scores of teachers in Sub-study D, and the distributions were again found to be very similar.

In one respect the Fairview group differed markedly from Sub-study A teachers in large schools having many counselors. When asked, "How often do you take time out to gather information about students?" the two groups responded as shown in Table I.

TABLE I. "How often do you take time out to gather information about students?" Responses in percent, within Fairview and within large multi-counselor schools generally (for the latter, see Table VII of Chapter II).

Frequency of seeking information	Fairview	Large multi-counselor schools
An hour per month or less	67	38
An hour per week or more	33	60
No response	0	2

The difference obtained on this item between the Fairview group and teachers in the Sub-study A sample, in contrast to the similarities shown on other items, may be due to the fact that the Fairview sample was self-selected, while the Sub-study A sample was substantially random.

The above comparisons of the Fairview group with teachers in other schools provide a picture of strong similarities, with the single point of difference being one which seems a reasonable accompaniment of self-selection. This picture gives us good confidence that the Fairview sample is similar in relevent respects to teachers in other large, multi-counselor schools in Illinois, and that such teachers might very well respond as the Fairview teachers did to the kind of training provided during the Fairview Institute.

The In-Service Training Plan

The plan for the program developed partly out of a desire on the part of the Fairview administration to further the training of teachers in the general area of testing, and partly out of administrative dissatisfaction with aspects of the typical extramural courses in measurement offered in the Fairview area by colleges and universities. Such courses, typically divorced from the daily activities of the teacher, cannot provide the functional development of testing knowledge possible in an intensive case-study type of program carried on by teachers as a part of their regular work. Accordingly, plans were made for the consultant to visit the school for two days each week for eight weeks in April and May for the purpose of working intensively with individuals, as well as with the group as a whole.

At seven of the eight visits, a meeting of the entire group was held at the end of a school day. At the first meeting there was a presentation and some discussion of the various uses of tests in educational settings. At this meeting also, plans were laid for each individual to work out a project in the area of testing related to his professional work in the school. Books, pamphlets, and articles were made available in the central office, and during the first two weeks the consultant had two or three interview sessions with each participant in which a beginning was made on defining the individual's project and initiating first steps on it.

Subsequent group meetings treated various topics. Sources of information concerning published tests, construction of tests, scoring, data handling, and test interpretation were described. The relation between the development of tests and the development of a course or curriculum was stressed from the point of view of evaluating the learning process in the school. Test scoring systems and types of normative data were also explained, as were basic notions of various kinds of validity and reliability. These ideas were handled in a spiral rather than in a sequential order, for it was found that returning to each topic and probing it a little more deeply each time fitted in well with the steady progress individuals were making on their projects.

The nature and tone of the institute obviously permitted tremendous latitude in the selection of projects--latitude that was eagerly accepted and actively exploited by the participants. For example, one counselor plunged into a series of intensive case studies of several students, drawing in groups of teachers to discuss ways in which such data could lead to a deeper understanding of the students involved. Another counselor set up a prediction study of academic success, choices of curricula, and changes in student goals. One of the aims of this counselor was to assess the prediction potentialities of data in the school files. The third counselor concerned himself with study of ways of recording test data which would make them more useful to himself and the faculty as a whole.

As for the teachers, five designed student selection studies in their individual subject fields, two involved themselves in problems of evaluating teacher-made tests in their areas, four tackled a comprehensive revision of existing tests in their teaching fields, and one embarked upon the construction of a new type of test item to measure important behavioral outcomes in his subject; outcomes for which tests had not yet been developed.

With the possible exception of the three counselors, the participants' projects were so highly individual as almost to exclude non-institute staff members from involvement in the work and from knowledge of its details. Each teacher pursued a problem of particular interest to himself; he was under no pressure to engage in work which would possess direct and immediate value for the faculty as a whole. This result was singularly devastating to a study of spread of influence. However, since we had elected to study a project expressly established to give training to a selected group of teachers in a way that would make that training immediatley useful, this was a risk we ran.

The fact that the participants focussed their projects upon their own bailiwicks, inviting almost no collaboration from other staff members, suggests a hypothesis about the conduct of programs which seek to train persons to apply new knowledge and skill to their daily work. It may be that the Fairfiew participants increased their efficiency in putting their new knowledge into practice by choosing realms of application which were largely under their own control. When one invites others to join in a project, one also invites obstacles which others may bring with them--obstacles stemming from conflicting goals as well as from difficulties of coordinating and scheduling. The choice of a relatively parochial project, in other words, may permit the trainee to focus his thoughts and energies more closely upon the use of his new knowledge and skill, unhampered by organizational problems. Further, the motivational effect provided by success in such first projects may well increase the likelihood of success when the trainee conceives later projects requiring the collaboration of other people.

Follow-up

Six months after the termination of the institute, interviews were conducted with four administrators and twenty-seven other teachers in the high school. The purpose of these interviews was two-fold: first, to evaluate the worth of the program; second, to obtain clues about what conditions would increase the chance of widespread changes in test practices and attitudes in the system. All interviews were conducted in an informal setting, but with sufficient prodding to elicit fairly complete answers to all questions.

The interview for administrators consisted of three questions:

1. Would it be worth-while to repeat this kind of in-service training program either in testing or in other areas?
2. What do you see as the main benefits stemming from this in-service program?
3. What are the main ways in which you would change the procedure or methods for another program if you were to undertake one?

In response to the first question, each administrator stated that it would be worth-while to repeat this kind of project, and three said that they planned to push the issue of having more such projects. In regard to that part of the question which dealt with repeating the in-service program, all of them felt that it should be repeated in testing as well as in other areas, providing satisfactory consultant help could again be available.

On the second question--main benefits--there were three areas of agreement. First, they felt that the money spent (the school itself paid all expenses of the consultant as well as those involved in holding meetings) was a comparatively small amount for the number of individual projects which had developed in application to the school's daily work. In regard to this point, two of the administrators--one of whom was more closely connected with the entire project than were any of the others--said that they would see much more advantage in such a program if there were some way of getting more teachers involved in working in the area without having a complete duplication of in-service programs.

A second point of agreement was that this kind of program was particularly useful for teachers who were growing professionally but who were not motivated to spend time amassing more formal courses beyond the considerable number they had accumulated since their last degree. The third point of agreement was that it is an advantage to the school as a whole to have advanced professional training applied immediately to the regular work of the school.

The administrator most closely connected with the program pointed out that almost all of the participants had come to him from time to time, both during the weeks that the consultant was there and in following weeks, to discuss their projects. He thus felt that the program had created a focal group for discussion about tests.

On the third question, regarding possible changes in methods and procedures, two main suggestions were made. The first was that the actual visits by the consultant should be increased in number from eight to ten or twelve, and--more important--should be spread over a five-or six-months' period instead of a two-months' period. The second suggestion was that there should be more systematic interplay between the teachers in the program and other teachers in their departments. Various ways of accomplishing this were suggested, most of which called for some sort of systematic departmental project or departmental meetings.

Interviews were also held with twenty-seven teachers not in the institute, two or more from each content field from which the participants came. Only two formal questions were used in these interviews:

1. Do you know about the present in-service training program--and what do you know about it?

2. Do you think that there should be other similar in-service programs on testing?

Answers to the first question were largely negative, as expected in a large school where the projects were centered on individual problems and no propaganda effort was made. More than half of the 27 teachers hesitated to say that they knew anything at all of the institute. The others who had some knowledge of the program had nevertheless had no conversations with institute members concerning the use and interpretation of tests. However, as we shall see below, the institute participants themselves did claim involving a few other persons in their work. Answers to the second question were encouraging. Six teachers definitely stated their belief in the need for more programs, especially in the area of testing. The remaining teachers--while asserting their belief in the need for in-service training programs--strongly implied, or stated flatly, that areas other than testing were of greater concern to them as individuals. Specifically, 21 out of 27 of these non-participants, representing all of the participants' departments, indicated that they would be less eager to join programs involving testing than other types. This finding supports our hypothesis expressed earlier that the attempt to involve others at an early stage risks discouraging those genuinely interested.

The participants themselves were of course interviewed frequently during the actual training period. It soon became apparent, however, that useful evaluations of the institute could be obtained only by allowing some months to elapse after its close. Accordingly, brief questionnaires were sent out in the late spring of 1960. Because of a mailing mishap, these questionnaires had to be sent again, and only 11 of the 15 had been received by the time this report was written. The questions asked and the number of people giving each kind of answer are shown below. Item 2 shows 15 answers because of personal communications with the consultant through channels other than the questionnaire.

1. Did you complete (or carry through to the present time) your project to your satisfaction?

   (The responses to this question, together with other personal communications to the consultant, were coded to indicate whether the respondent was still engaged in data-gathering not ordinarily required by the school regardless of whether this was being done in the form of the original project.)

Still engaged	8
No longer engaged	3

2. Did you involve in some fashion another staff member or members in your project?

   (Only one project was designed so as to require participation of others.)

One to four others involved	9
No others involved	6

3. Do you feel that another in-service measurement and testing program should be held at Fairview?

Yes	11
No	0

Would you want to be in it?

Yes	8
No	3

4. If there were to be another such institute, what specific changes in scheduling, method, or content, would you recommend?

More convenient or expanded scheduling of meetings	4
Altered type of meeting or project	2
Specific additions to content	3

Copies of the test of Knowledge and Interpretation of Tests (Appendix 6) accompanied the questionnaire just described. Among the eleven respondents, the scores of seven went up over the year's time and four went down, with a resulting mean increase of 1.8 score points. (Possible score on the test was 60.) The rank-order correlation rho between the two administrations was .95. Perhaps the KIT items were too restricted in scope to reflect the kind of learning experienced by the participants.

The results of the follow-up work were encouraging. The interviews with non-participating teachers, although disappointing, were hardly discouraging in the light of the fact that no effort was made to structure the institute so as to affect persons outside its membership. The interviews with administrators revealed a perception on their part of the existance of a variety of activities of direct usefulness to the school. Finally, information from the participants showed a surprising amount of voluntary activity still going on and a satisfying receptivity toward the possibility of similar institutes in the future.

Summary and Recommendation

An in-service training institute on testing and measurement was held at Fairview, a large high school in northern Illinois. This institute, being independent of the total program of research on the use of test results, was studied solely for the purpose of gleaning whatever information possible about the design of training procedures which would yield early results in more sophisticated and effective classroom use of testing.

A consultant devoted two days per week for eight weeks to intensive group and individual work with the fifteen participants. Each participant was self-selected, and each voluntarily chose a testing project which had direct application to his own work in the school. With one exception all projects were highly individual and were carried on almost in isolation from the other members of the school faculty. Because our data showed the Fairview participants to be very similar to other Illinois teachers in large multi-counselor high schools throughout the state in attitudes toward and knowledge about testing, we have some confidence that the effects of the Fairview program (reported below) would occur in schools of similar characteristics.

The effects of the institute were determined partly through interviews and partly by means of free-response questionnaires, both of which were conducted (or administered) one year after the termination of the program. Three groups of persons were involved: (1) school administrators; (2) non-participating teachers; (3) institute participants. The administrators, although highly laudatory of the program itself, were disappointed that it involved so few teachers. Their suggested revisions for subsequent programs emphasized broader involvement of other staff members in the various projects being carried out by the participants. The non-participating teachers (for the most part but little aware of the institute's existence) expressed general approval of in-service training programs, whether in testing or some other area.

Finally, the participants themselves were enthusiastic. A majority of them were still--after more than a year's time--pursuing their original testing project or a related one. As a group, they were unanimous in stating that more such institutes should be held, and over two-thirds stated that were a second institute in testing conducted they would again wish to participate.

The consultant experienced some difficulty in being in contact with the participants at the times best for helping them carry forward their projects. It would no doubt be of value in such projects if one or two persons were available in situ to act as interim sources of expertise and keep the consultant aware of the points at which his presence would be profitable.

Aside from this recommendation, Sub-study B seems to imply a two-stage process in improving the use of tests in schools. Where the new skills to be learned are skills to be practiced by individuals (as contrasted to interpersonal skills)--as is the case with constructing, interpreting, and using tests--the first objective of a trainer is to inculcate the necessary knowledge and provide practice in applying it. The second objective is to increase skill in as many members of the school staff as possible.

In line with this second objective, most of the administrators at Fairview suggested that the school would benefit more from an institute in which the participants designed projects which required collaboration with other staff members. However, the findings (1) that the institute participants--when given a free choice in the matter--elected not to involve others, (2) that almost three-quarters of the other teachers queried expressed lack of interest in the topic of the institute, and (3) that the participants themselves overwhelmingly expressed continuing interest in testing, all argue that the participants would have found their attention distracted by problems of handling other people had this suggestion been followed. Accordingly, the hypothesis was proposed that in learning of this type, initial learning will be more rapid and later spread of effect more sure, if the projects of the participants are limited during the first stage to activities over which they individually have primary control.

Evidence that greater spread occurs at later stages in the learning process is presented in Sub-study D, where we show that persons with more actual knowledge of testing were more likely to discuss testing matters with other teachers than were persons with less knowledge. Raising an individual's level of knowledge more rapidly at the outset, then, would perhaps increase the probability that discussion of the topic would eventually be more wide-spread among teachers. Further, insuring satisfying application of knowledge during the first stage--a success experience--should reinforce the salience of testing in the thinking of the participants and enable them better to maintain favorable orientation toward tests and test data in later-stage communication with others than they might be able to maintain if required to do battle too early.

If this hypothesis is correct, it argues strongly that such in-service training be carried on over periods longer than a year--perhaps two or three. This proposal may startle those accustomed to thinking of a body of learning as injectible into a student over a period of a semester or a year, after which time the student is ready for the next shot. Yet it is widely recognized that even after four years of college the new graduate typically needs a year or two of experience before he learns the skill of applying his new learning productively. It would appear reasonable that twice the usual amount of time devoted to in-service training would increase the payoff much more than twice.

Critical in all of the above is the problem of finding the most promising persons to involve in the training process. By usual methods of selection, some people are missed who should be included, and others included who should not be. The problem of finding persons who are themselves interested and who are influential in communication with others is being studied by a sociometric method under Contract 702(8367).

Chapter IV

SUB-STUDY C

The purpose of this portion of our research was to investigate by means of intensive individual interview certain of the critical factors which influence the decision-making process of the teacher in his dealings with students. It is a fact widely known but rarely studied that teachers are frequently called upon to make decisions about curricular placement--decisions requiring judgements about students' interests, capability, and achievement. In thus helping to determine the kind of experience the student will meet during his school career, the teacher exerts a direct and powerful influence upon the present and future behavior of students. What kinds of data enter into teachers' decisions in making such judgments about students? What kinds of information do teachers value most highly, perceive as most reliable, and place greatest faith in? How does the teacher's training and previous educational experiences affect the judgements he makes? The study reported in this section was designed to provide some tentative answers to these and related questions.

Procedure

Our first problem was to decide how best to obtain a valid picture of the specific factors the teacher takes into account in making a curricular placement decision. Two techniques were available: (1) the direct approach of asking the teacher what he needs for making such decisions; (2) the indirect approach of placing the teacher in a "problem situation" and observing his decision-making behavior in that situation. The direct approach is the easier of the two, but has the limitation of providing data of questionable reliability; that is, teachers frequently respond to direct questions by providing the interviewer with what they think they "ought" to say. Furthermore, persons are not always the best observers of their own behavior. The indirect approach eliminates these weaknesses to a large extent, but limits the field of investigation to the decision factors built into the problem-situation. In this study both approaches were used.

A sample of 34 volunteer teachers in a large high school well over 70 miles from the too-frequently-researched university community was selected for study. Each teacher was interviewed for approximately 50 minutes by a member of the project staff, using the standardized form given in Appendix 7. The first part of the interview was devoted to collecting background data on the general and technical training of the teacher. The second part was devoted to assessing, by means of direct questions, the specific data the teacher perceived as essential for him to have about a student in order to make a reasonably accurate curricular placement decision. Throughout this study the placement decision was one of recommending whether the student should be enrolled in an accelerated science class, or retained in the regular science program.

The third and last part of the interview employed the indirect approach of placing the teacher in a problem situation and observing his decision-making behavior. The technique used was a special adaptation of the instrument we had designed for Sub-study D (see Appendix 9), an instrument which had yielded reliable and relevant information. The instrument employed in the present study consisted of the fourteen facsimile student record cards given in Appendix 8. This adaptation provided a more precise measure of the specific type of information (intelligence, achievement, interest) which influenced teachers' decisions than did the original instrument.

The design of the 14 cards is shown in Table I. Some of the pieces of information on the cards (indicated by the + sign in the table) portrayed a student* who possessed relatively high intelligence, achievement, or interest. We assumed that "positive" information of this kind would sway our respondents, in most instances, toward putting the student into the accelerated science class. Other pieces of information (indicated by the - sign) depicted a student of average or below average intelligence, achievement, or interest. We assumed that "negative" information of this kind would, in most instances, provide our respondents with justification for not putting the student into the accelerated class. Some kinds of information were omitted from some cards, as indicated by the symbol 0. It will be noted that the number of items of information on each card is balanced between test information (given on the cards in the form of percentile scores), and non-test information (given on the cards in the form of remarks made by teachers). Each card has two pieces of test information (T) and two pieces of non-test information (NT).

If "positive" information argues for placement in the accelerated class and "negative" for retention in the regular class, it can be seen that twelve of the cards present some degree of conflict in the directions pointed by the pieces of information presented. The last column of Table I identifies the piece of information which is contrary in direction to the majority of pieces of information on the card. The "degree" of conflict, in terms of the number of pieces of information opposing each other, was made the same in all twelve cards, as can be seen in the column headed by the symbol +/-.

---

*The cards were not modeled on actual students, but were written solely to provide the balanced design shown in Table I.

TABLE I. Informational design of the cumulative record card sorting test.

Card Number	Test Information Intell.	Ach.	Interest	Non-Test Information Intell.	Ach.	Interest	+/-	Conflict
1	+	+	0	+	+	0	4/0	None
2	+	0	+	-	0	+	3/1	NT Intell.
3	-	0	+	+	0	+	3/1	T Intell.
4	+	0	-	-	0	-	1/3	T Intell.
5	-	0	-	+	0	-	1/3	NT Intell.
6	0	+	+	0	-	+	3/1	NT Ach.
7	0	-	+	0	+	+	3/1	T Ach.
8	0	+	-	0	-	-	1/3	T.Ach.
9	0	-	-	0	+	-	1/3	NT Ach.
10	+	0	+	+	0	-	3/1	NT.Int'st.
11	+	0	-	+	0	+	3/1	T Int'st
12	-	0	+	-	0	-	1/3	T Int'st.
13	-	0	-	-	0	+	1/3	NT Int'st.
14	-	-	0	-	-	0	0/4	None

KEY:

+ Information on the card implies relatively high intelligence, achievement, or interest.
- Information implies relatively low intelligence, achievement or interest.
0 No information of this kind appears on the card.
T Test information
NT Non-test information

The first and second parts of the interview were administered in an identical manner to all members of the sample. In the card sorting task, however, although the same set of cards was given to all respondents, the cards in the set were administered to each individual in random fashion so that the effect of order on the decision-making process would be minimized for the group as a whole. Every teacher was given the cards one at a time and asked to make a placement decision on the basis of the data on each one. If the teacher could not make a decision, the fact was recorded. When the teacher had completed the task of sorting cards into three piles--accelerated, regular, and no-decision--the interviewer probed intensively and systematically for further information as described in Appendix 7 and as discussed in the following section.

Scoring the Card Sort

Although every respondent was given all 14 cards only the 12 conflict cards were scored. The score assigned each card reflected the weight the respondent placed on the particular piece of information which was in conflict with the other three pieces. Thus, as the last column of Table I shows, a "regular" decision on Card 2 indicated that the respondent valued what teachers said about a student's intelligence over the other three kinds of information on the card; an "accelerated" decision on Card 8 indicated that the respondent valued standardized achievement test scores over the other three kinds of information, etc. Scores on each card had a possible range of from 0 to 5 and were obtained by coding the subject's responses at two points. The first response which contributed to the score was the direction of the subject's decision, for or against the direction implied by the three consistent pieces of information on the card. The second response was that given when the subject was asked what his decision might have been had a certain piece of information not appeared on the card. Although the manner in which this question was asked can be seen in Appendix 7, it will be described briefly here.

After the respondent had sorted the cards into accelerated, regular, and no-decision piles, he was asked certain questions about his decision. Taking a card from the accelerated pile, the interviewer covered with a paper mask the piece of information corresponding to the "conflict" piece of information. For example, on Card 2 the interviewer covered the test information about intelligence, since this corresponded to the one piece of information in conflict with the rest: NT Intell. The interviewer then asked: "Suppose you had not had this information. Would you have been able to make a decision, and if so, in which group would you have placed the student?" The change in the respondent's original decision, if any, gave the second part of the score to be assigned to the card. Scores were assigned according to the tabulation on the following page.

	Original decision was consistent with the direction indicated by:		Decision after removal of one piece of conflicting information was:		
Score	The three consistent pieces of info.	The single conflicting piece	Same	No decision now	Reverse
0	x		x		
1	x			x	
2	x				x
3		x			x
4		x		x	
5		x	x		

Analysis of the Card Sort

Our first step was to combine, for each respondent, his scores on pairs of cards which were alike on the basis of the conflict they contained (see last column of Table I). We then obtained the mean score over all subjects for each pair of cards as shown in Table II.

TABLE II. Mean scores for pairs of conflict cards, ranked in order of size of mean. N = 34.

Card No.	Type of info.	Source of info.	Mean score
7,8	Ach.	Test	2.9
6,9	Ach.	Non-test	2.1
11,12	Interest	Test	2.0
3,4	Intell.	Test	1.9
2,5	Intell.	Non-test	1.3
10,13	Interest	Non-test	0.9

This table shows that the teachers in our sample, as a group, placed heaviest weight upon students' standardized achievement test scores, and least weight upon teachers' subjective evaluations of students' interests. The table also reveals that test data possessed greater weight in influencing teachers' decisions than did non-test data unless the type of information was sufficiently important to out-weigh source--as in the case of achievement.

This analysis provided information about how the group responded to the *a priori* categories built into the cards, but left open the question of how the subjects themselves perceived the cards. To explore this question we inter-correlated all twelve cards, using the scores described in the previous section. (For example, a positive correlation between Cards 2 and 3 would indicate that teachers who put high weight on NT Intell also tend to put high weight on T Intell.) We then examined the resulting clusters in the correlation matrix, as shown in Table III. In this table the labels of the cards were permuted so as to move toward the diagonal the greatest number of the high positive correlations. Two distinct clusters are immediately apparent. Cluster A is defined by the correlations among Cards 3, 4, 7, 8, and 9 and Cluster B by those among Cards 10, 11, 12, and 13. Within each of these two clusters, all correlations are positive with the exception of the low negative correlation between Cards 7 and 8. Between clusters, correlations are very largely negative or low.

As Table I shows, all cards in Cluster A except Card 9 contain test intelligence and test achievement as the determining piece of information. That is, in these cards, standardized intelligence and achievement test scores are contradicted by the other three consistent pieces of information. The most important fact about Cluster A is the presence of Card 9, a card on which teachers are portrayed as saying, "This student is a high achiever," and the tests say, "This student is not only a poor achiever, but disinterested in science as well." In other words, the presence of Card 9 indicates that those of our respondents who typically value test information about intelligence and achievement over all other kinds of information reject such information when it is directly contradicted by teachers' subjective evaluations of achievement. This finding is consistent with the high rank of cards 6 and 9 in Table II. Further, the close proximity of Cards 6 and 9 to the pairs just below them (See Table II) is reflected in the low correlations between Card 9 and the others in Cluster A.

Cluster B is obviously an "interest" cluster, and indicates that those of our respondents who value student interest over other kinds of data do so with moderate but noticeable consistency.

Cards 2 and 6, forming a doublet by themselves, possess essentially zero or negative correlations with all cards in Cluster A except 7 and with all in Cluster B except 10. The 2-6 doublet is important because on these two cards the comments by teachers describing the students' intelligence and achievement are negative and contradict the test information on the card.

TABLE III. Correlation matrix for the twelve conflict cards, rearranged to reveal clusters.

Cards	5	7	3	4	8	9	12	11	13	10	2
7	-18										
3	-09	45									
4	24	28	54		A						
8	03	-10	03	38							
9	03	17	14	08	20						
12	20	-07	-35	-05	06	-01					
11	03	-01	-02	-19	-45	-27	25				
13	-13	-40	-20	-13	18	-11	14	16		B	
10	-11	-18	06	-53	09	17	07	09	15		
2	10	16	-01	-19	01	-02	-03	-19	-20	28	
6	-32	-01	08	-33	-46	-21	-32	-01	-14	-03	25

In other words, many respondents who valued teachers' evaluations over test data did so consistently *when the teachers' evaluations were negative*. It appears that these two cards identify for us individuals who regard teachers' evaluations as a necessary condition (but one not necessarily sufficient) for accelerated placement--for these respondents, teachers have "veto power" over the tests.

There are some low-to-moderate positive correlations in Table III which lie outside the clusters. The higher ones are underlined. These correlations indicate that the clusters are not "pure." Nevertheless, the conclusion that our respondents exhibited a pronounced tendency to respond the same way to cards within a cluster is justified by the much higher concentration of positive correlations within clusters compared to their rarity between clusters.

Hypothesis Testing

As stated in the contract proposal, Sub-study C was designed to test the hypothesis that teachers with more training in counseling and test theory would exhibit preferences for different patterns of (1) types of information, (2) sources of information, and (3) combinations of types and sources, than would those with less training.

Amount of training was ascertained by means of the question in the interview (Appendix 7) which asked about the number of courses in guidance and testing the respondent had taken. In testing Part (1) of the hypothesis, preferences for different types of information were ascertained by means of the scores on each card described earlier. As seen in Table I, the amount of weight a teacher placed on intelligence information could be ascertained by adding the scores from four of the cards. Likewise, there were four cards which could contribute to a score for weight placed on achievement information, and four for a score on interest information. These three scores for each teacher gave a rank-order preference for the three types of information. Table IV shows the number of persons preferring each rank order of information within groups having more and fewer courses in guidance and testing. In testing for chance occurrence of the different distributions of preference, the cumulative frequencies shown in Table IV

TABLE IV. Number of teachers with different rank-order preferences among types of information, tabulated within groups of teachers possessing different numbers of courses in guidance and testing.

Rank-order preference among types of info.	Number of courses		Cumulative frequency	
	1 or more	None	1 or more	None
Intell, Ach, Int'st	2	5.0	2	5.0
Intell, Int'st, Ach	1	0.0	3	5.0
Ach, Intell, Int'st	7	4.5	10	9.5
Ach, Int'st, Intell	4	3.5	14	13.0
Int'st, Intell, Ach	0	2.5	14	15.5
Int'st, Ach, Intell	2	2.5	16	18.0

were computed and the Kolmogorov-Smirnov test* was applied.

According to the Kolmogorov-Smirnov Tables, the discrepancy between the two cumulative frequency distributions in Table IV has a random probability greater than .20; hence Part (1) of the hypothesis is not supported by the data.

The test of the second part of the hypothesis examined the differences in responses to tests as sources of information about students. Some cards (3, 4, 7, 8, 11, 12) yielded scores on the respondent's preference for test information, and others gave scores on his preference for teachers' descriptions of the student. Respondents were divided into two groups: those whose preference scores for test information were higher than their scores for non-test information, and those whose preferences for source of information were in the reverse order. The distribution of respondents in those groups against the training groups is shown in Table V. The chi-square value for this table is little different from zero; hence Part (2) of the hypotheses is not supported.

TABLE V. Numbers of subjects preferring test information or non-test information about students versus number of courses taken in guidance and testing.

	Sources of information more preferred*	
Number of courses	Test	Non-test
One or more	9	5
None	12	5

*N = 31. There were 3 (T, NT) ties.

Part (3) of the hypothesis was tested by comparing teachers with different amounts of training with the combination of source and type of information which they weighted most heavily, as well as on the combination they weighted least heavily. Again, the Kolmogorov-Smirnov test was used. The results shown in Table VI fail to support the hypothesis.

---

*Walker, Helen M. & Lev, Joseph. Statistical Inference, New York: Holt, 1953. Pp. 426-428.

TABLE VI. Numbers of teachers giving most and least weight to certain combinations of source and type of information, tabulated within groups of teachers having different numbers of courses in guidance and testing.*

Type-source of information	Number of courses		Cumulative freq.	
	1 or more	None	1 or more	None
Given most weight				
T Intell	1	5	1	5
NT Intell	0	0	1	5
T Ach	5	6	6	11
NT Ach	7	5	13	16
T Int'st	4	3	17	19
NT Int'st	3	1	20	20
Given least weight				
T Intell	7	6	7	6
NT Intell	7	6	14	12
T Ach	1	1	15	13
NT Ach	1	2	16	15
T Int'st	4	5	20	20
NT Int'st	12	12	32	32

*When ties occurred, a tally was recorded for each type-source in the tie.

Aside from examining the effects of formal training on the use of different kinds of information about students in making curricular placement decisions, we were also interested in whether teachers could describe accurately the way they weighted various factors in their decisions. To explore this question, we asked the teachers to fill out a questionnaire (see Appendix 7) dealing with their minimum standards for recommending a student for an accelerated science class. We could then compare each teacher's responses to the questionnaire--his predictions of his own behavior, essentially--with his performance on the Card Sort task. We adopted the following hypotheses: (1) the respondent's stated standards would not be an accurate prediction of his later performance on the Card Sort, and (2) his accuracy would increase when the decision situation was made simpler; that is, when the amount of information he had to handle in making the decision was reduced.

A teacher could violate his stated standards in either of two ways:

A. By placing in the accelerated group a card which had no information of a type he had previously claimed to be essential in making such a decision.

B. By placing a card in the accelerated group when the information given was sub-standard; for example, stating that intelligence test results must classify the student as "far above average" on the questionnaire, but then in the Card Sort accepting a student with an IQ of 103.

Within the present sample of 34 individuals the Type A violation occurred 138 times and the Type B violation occurred 116 times. Of the

144 instances of cards originally placed in the accelerated group, 140 instances were in violation of either A or B or both. This amounts to 97% of the cases. In fact, all but two respondents failed to predict their behavior in at least 3 instances. These results clearly support the first hypothesis.

We next analyzed the violations occuring after one piece of information on the card was masked. Observations were necessarily limited to instances where the decision changed from Regular to Accelerated or vice versa, and omitting changes to No Decision. Of the 77 such cases, 49 were in violation of A or B or both. This amounts to 64% of the cases.

On the original placement 32 out of 34 subjects (94%) violated their standards three or more times while the other two subjects did not violate their standards at all. Twenty-three subjects (68%) violated their standards after one piece of information on the card was masked. Analysis of the difference between these two percentages according to the technique of Lawshe and Baker* established the significance of this difference at the .002 level. These results support the second hypothesis.

Summary

Sub-study C focussed upon the ways teachers combine and use different kinds of information in making curricular placement decisions about students. The decision situation employed was that of whether or not to place a student in an accelerated science class.

The decision-making process was studied by means of two instruments: (1) a questionnaire, and (2) a problem-solving task called the Card Sort. The questionnaire consisted of a series of questions aimed at obtaining the respondent's own views of the kinds of information of importance to him in this process. The Card Sort consisted of a series of fictitious student record cards containing several types of information. The respondent was asked to make a decision about each student on the basis of this information.

The results obtained from the Card Sort revealed that our respondents put very different weights upon kinds and sources of information in making their decisions. The most frequently preferred pattern was that of giving heaviest weight to achievement and intelligence information as measured by objective tests. Teachers' evaluations of students, however, markedly affected respondents' decision-patterns--especially in the area of classroom achievement. Some respondents apparently employed teachers' judgements as a warning sign, since they would cast their decisions in the direction indicated by the tests only if the positive evidence of test achievement and test intelligence was not contradicted by a negative evaluation by a teacher. Also discernable in a few respondents' decision-patterns was the tendency to pay primary attention to students' interests, regardless of what tests or teachers said about the students' ability.

---

*Lawshe, C. H. & Baker, P. C. Three aids in the evaluation of the significance of the difference between percentages. Educational and Psychological Measurement, 1950, 10, 263-270.

Results from the questionnaire, which provided information about the kinds of information the respondents said they valued in making accelerated placement decisions, were at variance with the results obtained using the Card Sort. Thirty-two of our thirty-four respondents frequently violated their abstract verbal standards when faced with an actual problem about which they had to render a decision. Only when the Card Sort problems were simplified by removing one of the conflicting pieces of information did our respondents' problem-solving behavior even begin to approximate their verbal behavior.

This finding strongly argues the unreliability of self-report data in studies of a process as complex as that of decision-making. This being so, it is important that research on teachers' use of information in working with students be preceded by (or at least be concomitant with) research on appropriate methods of assessing the critical factors in the decision-making process.

It is possible, of course, that our results stemmed from the fact that the questionnaire asked the respondents to consider single bits of information taken one at a time, whereas the Card Sort asked them to consider a complexity of information. However, it is a reasonable assumption that even when not constrained by the form of direct questioning we employed, teachers tend to think about the factors involved in a problem one at a time, whereas in the real situation they must act in regard to all at once. Certainly the total question bears further research.

The chief hypotheses around which this sub-study was built were not supported by the results. No differences were found between teachers with different amounts of training in testing in their preferences for kinds of information. One reason for this may lie in our measure of training; namely, a self-report of number of courses in testing taken by the individual. This measure has been shown in Sub-studies A and D to be comparatively inefficient, thereby providing further support for our contention regarding the need for subtler measures of the critical variables which determine teachers' behavior toward students.

Chapter V

SUB-STUDY D

In this portion of the research our chief purpose was to investigate with greater precision our major hypotheses about the relation between knowledge about testing and the use of information from tests.

Instruments Used

One instrument employed in this sub-study was an improved version of the Questionnaire for Teachers used in Sub-study A. (For the Sub-study A version, see Appendix 3; for the version used in Sub-study D, see Appendix 10.) The need for greater precision, however, led us to design two additional instruments to supplement the data obtained from the revised questionnaire. One of the new instruments was a multiple-choice test of Knowledge and Interpretation of Tests. This test, also used in Sub-study B, will hereafter be called the KIT and is shown in Appendix 6. The second instrument was an individual problem-solving task involving the use of test scores in decision making. This instrument was called the Card Sort and appears in Appendix 9. Of these three instuments, the questionnaire is self-explanatory, but the other two need some description before we present the results based on their scores.

The KIT consisted of two parts. The first part contained 60 four-choice items on technical matters of test construction and interpretation. The teacher was instructed to select the correct answer for each item. The score on this part was the count of items answered correctly; the possible range was from zero to 60. The second part consisted ostensibly of a list of the names of 30 standardized tests, to each of which the teacher was to mark his degree of familiarity as follows:

0 - Have never heard of the test.
1 - Recognize the name, but have no other knowledge.
2 - Know what the test measures in a general way.
3 - Have examined the test and am fairly familiar with it.

Fifteen of these names were of existing published tests and fifteen were fictitious. We reasoned that if a respondent were motivated to exhibit "knowledge" in response to items which looked only vaguely familiar, he would mark some of the fictitious test names with a response other than "0." Broad experience with available tests, on the other hand, would make it more difficult for the respondent to be uncertain whether a given test name was one he knew about, and such a person would mark practically all of the fictitious tests "0." The second part of the test, then, provided two scores:

(1) Familiarity score: the sum of the weights each teacher assigned the 15 published tests.

(2) Fiction score: the sum of the weights each teacher assigned the 15 fictitious tests.

Preliminary analysis of the 60 items in the first part of the KIT showed that the lower bound of the test's reliability ranged from .68 to .73 on three different samples, as established by the Kuder-Richardson formula 21, and that 73% of the items had bi-serial coefficients with total score of .30 and above. No analysis of the second part was made.

The second instrument, designated as the Card Sort, consisted of a set of facsimile cumulative school record cards, one for each of 28 imaginary eleventh grade students. These cards contained, in varying combinations, objective test information about each student's intelligence, subject matter achievement, and interests, along with subjective evaluations by imaginary teachers of each student's ability, classroom performance, and interests. On a few of these cards the objective and subjective information presented a consistent picture of the student; that is, both tests and teachers stated that the student was interested, capable, and productive, or stated that he was the opposite. On a majority of the cards, however, the picture of the student presented by his test scores, and the picture presented by teachers who had worked with him in class, were conflicting. For example, the tests might show a student to be far above average in intelligence, but teachers would report that he was definitely below average in mental ability. The purpose of these conflicting cards was to determine which type of information--test scores or teachers' statements--most influenced a teacher's decision about the student. In all instances the decision to be made was, "Should this student be placed in an accelerated science class, or retained in the regular science program?" Although faculty members were asked to play the role of a teacher in a new school, great care was taken to make the task as realistic as possible. This attempt was so successful that several teachers asked the interviewer whether the cards described actual students. Further details of the interview situation are to be found in Appendix 9.

The Card Sort provided scores having a possible range from 24 to 88 with a neutral point at 56. A score above 56 indicated that the teacher placed greater weight on test scores in making his decision about students than he did on teachers' subjective evaluations of the students' behavior. A score below 56 indicated that the teacher placed greater weight on what other teachers said about the student than he did on the students' test scores. These "test vs non-test" scores--hereafter referred to as T-NT scores--proved amazingly reliable, having coefficients of equivalence of .79 and .85 on two different samples of 50 teachers each.

Sample

Since we felt it necessary to explore more precise ways of measuring certain variables by means of devices like the Card Sort and the KIT, and since these devices required personal entry into schools both for the purpose of direct interviewing and for the purpose of maintaining rapport, we did not undertake to carry our this sub-study with a large number of schools chosen at random. Rather, we desired a comparatively small number of schools which nevertheless would be representative of Illinois secondary schools. In another study running concurrently, we had already established entree into 28 schools which answered adequately the requirement of representativeness; Sub-study D was therefore conducted with about 400 teachers in these schools. Some demographic characteristics of these schools are given in Table I.

TABLE I. Characteristics of schools in Sub-study D.

School code number	Size of faculty	No. of faculty sampled	High or Jr. High	1950 population of town in 1000's*	1950 standard metropolitan area**
257	195	78	Hi	52	Chicago
018	119	45	Hi	9	Chicago
280	74	29	Hi	66	Decatur
091	74	28	Hi	40	---
153	71	26	Hi	66	Decatur
488	71	28	Hi	66	Decatur
495	68	33	Hi	82	Springfield
117	65	25	Hi	5	---
301	63	32	Hi	5	Chicago
188	56	27	Hi	22	---
430	55	31	Jr	41	---
601	47	23	Jr	40	---
531	46	18	Hi	23	---
463	40	21	Hi	2	St. Louis
264	40	20	Hi	17	---
602	39	22	Jr	82	Springfield
274	38	23	Hi	66	Decatur
603	34	16	Jr	26	---
281	32	16	Hi	6	---
600	28	28	Jr	52	Chicago
415	23	21	Hi	3	---
484	23	23	Hi	4	---
526	22	21	Hi	3	---
244	20	20	Hi	6	---
538	20	17	Hi	3	---
343	17	15	Hi	3	---
177	16	16	Hi	1	---
604	13	12	Jr	1	---

---

* U. S. Bureau of the Census. U. S. Census of Population: 1950. Vol. II, Characteristics of the Population, Part 13, Illinois. U. S. Gov't Print. Office, 1952. Tables 7 and 10.

**Ibid., p. 51.

Variables

Our two major independent variables were (1) knowledge of tests and how to interpret them, as measured by the first 60 items of the KIT, and (2) amount of training in the technicalities of testing, as measured by the number of courses in testing the respondent had taken. (See Appendix 10, item 10) Table II shows the distributions for these variables. The totals are different because all members of the sample did not take, or did not complete, both instruments.

TABLE II. Distributions of KIT scores and of number of courses in testing.

Score on KIT	Frequency
51-55	2
46-50	7
41-45	19
36-40	53
31-35	88
26-30	99
21-25	80
16-20	19
11-15	5
N = 372	

No. of courses in testing	Frequency
Over 3	26
3	25
2	78
1	144
0	113
N = 386	

Our major dependent variables involved teachers' attitudes toward and use of tests and test scores. Specifically:

(1) Teachers' attitudes regarding the kinds of standardized tests their school "ought" to administer (measured by Item 1 of the questionnaire; see Appendix 10).

(2) Teachers' attitudes regarding the usefulness of test data in working with students (measured by Item8 of Appendix 10).

(3) Teachers' attitudes regarding the methods their schools"ought" to employ to keep teachers informed about students' test scores (measured by Item 11 of Appendix 10).

(4) The frequency with which teachers discussed among themselves the test scores made by students (measured by Item 9 of Appendix 10).

(5) The weight teachers assigned to test scores in making a curricular placement decision (measured by the Card Sort, Appendix 9).

Our general hypothesis was that teachers with high scores on the two independent variables (knowledge and training in testing) would exhibit different attitudes toward test information, and also more extensive use of it than would teachers with lower scores on these variables. More specific hypotheses are stated and discussed below.

Hypothesis I and Results

Our first hypothesis was that teachers with more knowledge or training in testing would be more aware of the usefulness of test information and would therefore desire more kinds of tests to be administered in their schools than would teachers with less knowledge or training. Data on number of tests desired were taken from Item 1 of the teacher's questionnaire (Appendix 10) and distributed against KIT scores and against number of courses in testing. These relationships, as well as the relationship between our two independent variables, are shown in Table III.

TABLE III. Number of kinds of tests desired in school versus KIT scores and also versus number of courses in testing. Entries in body of table are numbers of teachers.*

(a) Amount of Knowledge

	No. of kinds of tests desired	
KIT score	Fewer than 6	6 or more
36-54	35	51
26-35	93	101
10-25	63	24
N	191	200

Chi-square = 5.28
$.05 < p < .10$

(b) Amount of Training

	No. of kinds of tests desired	
No. of courses in testing	Fewer than 6	6 or more
Two or more	59	70
One	70	74
None	61	52
N	190	196

Chi-square = 1.41
Not significant

(c) KIT vs No. of Courses

	No. of courses	
KIT score	None or one	2 or more
26-54	171	104
10-25	84	24
N	255	128

Chi-square = 8.35
$p < .005$

---

*Underlined frequencies are higher than the expected values computed from the marginal totals.

Table III shows that both KIT and amount of training in testing were related to the number of tests teachers would like to see used in their schools in the direction predicted by the hypothesis. It will be noted, however, that only the KIT relationship was significant. The relation between the two independent variables (Table III (c)), although in the expected direction, was not strong. This might result from the fact that whereas the KIT items were concentrated on the technicalities of test construction and interpretation, formal courses in testing typically cover a much broader range of knowledge. In any event, the effect of knowledge alone, and of training alone on this aspect of teachers' attitudes toward tests is not as marked as one might expect.

To determine whether the combined effect of these variables showed a more significant relationship than either taken singly we grouped teachers into the following categories:

A. High KIT scores (26-54) many testing courses (two or more)

B. High KIT scores (26-54) few testing courses (none or one)

C. Low KIT scores (0-25) many testing courses (two or more)

D. Low KIT scores (0-25) low testing courses (none or one)

Application of Lancaster's partition of chi-square* showed that the interaction between KIT scores and number of courses in testing was essentially zero. In other words the relationship KIT possesses with "kinds of tests desired by teachers" is not enhanced by the addition of courses in testing.

To determine whether these four groups of teachers exhibited differences in general experience with standardized tests we examined their Familiarity and Fiction scores derived from Part B of the KIT. The percentage of each group falling into high familiarity with tests, low familiarity with tests, and high fiction is reported in Table IV.**

---

* See footnote, page 4.

**Table IV does not include a breakdown of Familiarity scores within the group of teachers having high Fiction scores because a high Fiction score makes the Familiarity score questionable.

TABLE IV. Percentage of teachers with high and low Familiarity and Fiction scores within groups having high and low KIT scores and number of courses in testing.

Teacher group		Low Fiction			
KIT score	No. of courses	High Famil.	Low Famil.	High Fiction	No. of teachers (100%)
High (26-54)	Many (2 or more)	40	38	22	95
High (26-54)	Few (none or 1)	26	64	10	146
Low (0-25)	Many (2 or more)	25	50	25	20
Low (0-25)	Few (none or 1)	10	73	17	69

Chi-square = 30.05; $p < .001$ N = 330

The results of Table IV show that the effects of knowledge (KIT) and training (number of courses) were cumulative in regard to Familiarity scores in that an increased amount of either one increased the likelihood of broader familiarity with existing tests. It can be seen in this table that the percentage of high Fiction scores among teachers with many courses--regardless of KIT score--was much greater than among teachers with few courses. One hypothesis to account for this latter finding might be that persons with many courses have been exposed to more names of tests and therefore confuse fictional names with actual names more easily.

The median Fiction score of 4, at which High Fiction teachers were divided from Low Fiction teachers in this table, is very low compared to the possible range of 0 to 45. The fact that so few teachers with limited training in testing obtained high Fiction scores is evidence for the truthfulness with which members of the sample answered the KIT and for the validity of the knowledge score obtained from the first 60 items.

Hypothesis II and Results

Our second hypothesis was that teachers with more knowledge and training in testing would be more aware of the imperfections which all tests contain and would therefore place a more moderate amount of faith in the "answers" provided by test scores than would teachers with less knowledge and training. Lacking optimum knowledge or training, teachers would tend toward extremism in their perceptions of the value of tests, regarding them either as almost perfect or as essentially worthless.

Data for the dependent variable used in testing this hypothesis were obtained from Item 8 of the teacher's questionnaire (Appendix 10). In this item, statement A was designed to indicate a highly accepting attitude toward the usefulness of tests, statement B to indicate a quizzical or moderate attitude, and statement C a rejecting attitude. The analysis of variance reported in Table V showed that most of the differences among teachers in these attitudes were in the expected direction, but that the relation was significant only where the KIT score was used as the independent variable. In the sub-table headed "Amount of Knowledge," teachers choosing the moderate attitude B had the higher KIT scores.

TABLE V. Test confidence versus KIT and courses in testing. Entries in the body of the table are numbers of teachers.

Amount of knowledge*

KIT score	Attitude (see text) A	B	C
50-59	0	2	0
40-49	8	22	2
30-39	53	91	21
20-29	68	78	7
10-19	8	8	4
N	137	201	34
Mean	28.9	31.1	29.9
S.D.	4.2	7.2	7.6

F = 4.77; .005 $p < .01$

Amount of training

No. of courses	Attitude (see text) A	B	C
4 or more	6	17	2
Three	8	13	2
Two	26	45	5
One	52	73	17
None	46	52	8
N	138	200	34
Mean	1.1	1.4	1.2
S.D.	1.1	1.2	1.1

F = 1.99; not significant.

We next sought to elucidate the meaning of "moderateness" of confidence in test scores by comparing the A-B-C attitude statements concerning confidence in test scores with the T-NT scores taken from the Card Sort. It will be recalled that the T-NT score was designed so that a score above 56 indicated that teachers tended to place greater weight on test scores than on statements made by other teachers in recommending accelerated science placement of a student, whereas a score below 56 indicated a tendency to place more weight upon statements by teachers. We reasoned that teachers who chose the moderate attitude B would show fewer extreme scores on T-NT, placing excessive weight neither on test scores nor on statements made by other teachers. However, no evidence for such restriction of range was found, either in the standard deviations (all approximately equal) shown in Table VI or in other analyses performed but not shown here. Instead an analysis of variance (Table VI) showed that the mean T-NT scores among the A-B-C groups were significantly different, with that for the B group being the highest of the three.

---

*Another table showing essentially these same data is to be found on page 16.

TABLE VI. Test confidence versus T-NT scores. Entries in body of table are numbers of teachers.

T-NT	Attitude (see text)		
score	A	B	C
81-88	4	11	1
76-80	8	12	2
71-75	7	17	2
66-70	10	17	2
61-65	15	22	3
56-60	25	45	3
51-55	17	19	8
46-50	15	19	2
41-45	9	11	4
36-40	11	10	4
31-35	6	7	2
26-30	6	7	2
24-24	4	2	0
N	137	199	35
Mean	54.3	57.9	52.8
S.D.	14.3	14.4	14.6

$F = 3.35; \quad .05 > p > .01$

This finding led us to reconsider our initial ideas about the meaning of the T-NT scores. Apparently, teachers who possess sufficient knowledge about tests to approach them with the quizzical attitude exemplified by our attitude B statement are teachers who know enough about them to recognize instances in which the information the scores provide is a more valid and reliable estimate of student potential than are teachers' opinions. In other words, knowledgeable teachers--perhaps because they know better how to interpret test scores--place greater weight on them than do teachers with less knowledge. This interpretation is substantiated both by the data in Table VII, which show that teachers with more knowledge, as well as those with more training, have higher T-NT scores, and by the data in Table V, which show that teachers with attitude B tend to be the most knowledgeable.

TABLE VII. KIT scores and courses in testing versus T-NT scores. Entries in the body of the table are numbers of teachers.

Amount of knowledge

KIT	T-NT score		
scores	24-44	45-65	66-88
36-54	14	42	29
26-35	47	98	55
10-25	30	57	19
N	91	197	103

Chi-square = 8.09; $.10 > p > .05$

Amount of training

No. of	T-NT score		
courses	24-44	45-65	66-88
3 or more	5	27	20
Two	17	41	19
None or one	64	133	56
N	86	201	95

Chi-square = 9.42; $.10 > p > .05$

It would seem therefore, that our T-NT score is not an appropriate measure of "moderateness" when this term is defined as the tendency to take into account all of the relevent data about a student in making a decision. Rather, the T-NT score may better be considered a measure of a respondent's preference for objective vs. subjective information in making academic placement decisions, and our data show that teachers with greater knowledge about tests tend to rely on them more heavily when making such decisions than do teachers with less knowledge. This in no way implies that the greater a teacher's knowledge about tests, the more prone he is to ignore all other data. Rather, it implies that increased test knowledge heightens a teacher's readiness to use test information where it is appropriate.

In any event because of the substantial reliability of the T-NT scores, and because of the consistency of the tables just summarized, we decided to continue to use both the Card Sort and the attitude item in further work.

Hypothesis III and Results

This hypothesis stated that teachers with more knowledge and training in testing would wish their schools to employ systematic and thorough methods of disseminating test information to the faculty, whereas teachers with less knowledge and training, being less keenly aware of the need for adequate test dissemination practices, would not exhibit this desire.

Data for this hypothesis were obtained from Column 2 of Item 11 in the questionnaire (Appendix 10). This item asked teachers to indicate their perceptions of desirability by checking which of seven different test dissemination practices "ought" to be employed in their respective schools. Teachers were free to check as many or as few as they wished. These seven practices are listed below:

1. Scores are kept in the administration office and any may look them up who wish.
2. Scores are kept in a particular office and the appointed person will discuss the test results with any teacher who asks.
3. Reports of results in some form are given to the teacher to give to the students, and the teacher can look them over before handing them out.
4. Copies of actual scores are given to the teacher for the teacher to keep.
5. Copies of test results in descriptive form (not actual scores) are given to the teacher for the teacher to keep.
6. Group meetings are held at which test results are explained and discussed with the teachers.
7. Conferences are scheduled with individual teachers to discuss test results.

Two chi-squares were computed for each of these practices separately; the first was computed for KIT scores, the second for number of courses in testing. The chi-square analysis results are reported in Table VIII. The first column in this table shows the percent of the total group--regardless of KIT score or number of courses in testing--desiring the given practice. The next two columns report the significance of the relationships studied. In these columns a significant relationship indicates that more teachers with higher KIT scores (or more courses in testing) desired that the practice be employed in their schools than did teachers with lower KIT scores (or fewer courses in testing).

The percent column in Table VIII reveals that, in general, teachers desired actual test scores to be readily available (practices 1, 2, 6, 7). By contrast, most teachers were against receiving information in passing (practice 3), receiving it in a watered-down "descriptive"form (practice 5), or being burdened with the responsibility of setting up their own permanent files (practice 4). The two practices which were significantly related to KIT scores seem to indicate that the more actual knowledge a teacher possesses, the more he desires immediate and frequent access to test data (practice 4) and wide-spread discussion of it (practice 6). The one practice in which desirability was significantly related to number of courses in testing (practice 7) might perhaps reflect the emphasis most college courses place on the case-study approach in test interpretation.

TABLE VIII. KIT scores and courses in testing versus test dissemination practices desired.

Practice	Percent of teachers desiring practice	Significance by chi-square KIT	No. Courses
1. Keep in general files	54	NS	NS
2. Keep in special files	64	NS	NS
3. Send through teacher	10	NS	NS
4. Send to teacher to keep	38	$.025 < p < .05$	NS
5. Descriptive form	32	NS	NS
6. Group meetings	55	.005	NS
7. Individual conference	40	NS	$p < .005$

Hypothesis IV and Results

This hypothesis stated that for teachers with more knowledge and training, testing would be a more salient part of their perception of their work with students, and they would therefore discuss results of standardized tests with others more frequently than would teachers with less knowledge and training. We further hypothesized that in schools where the mean level of the faculty's knowledge about tests was high, teachers would report greater frequency of discussion than would be the case in schools where the mean level of faculty knowledge was low. Finally, we hypothesized that the relation between knowledge and discussion would be stronger in schools with low mean levels of knowledge and weaker in schools with high mean levels of knowledge.

These hypotheses were based on the reasoning that individuals tend to discuss matters which are important to them in their work and about which they possess some knowledge. To the extent that individuals are surrounded by persons who also possess substantial knowledge of these matters, the mean amount of discussion which takes place will be increased. Some support for the soundness of this reasoning lies in the significant relationship found between amount of knowledge and desire for group discussion of test results, reported in Table VIII.

Data for these hypotheses were obtained from Item 9 of the questionnaire (Appendix 10). The results for the hypothesis about the relationship between individuals' knowledge, training, and frequency of discussion are reported in Table IX. It will be noted that in both sub-tables the frequencies are in the anticipated direction and that both variables show a significant relation with amount of discussion of standardized test results.

TABLE IX. KIT scores and number of courses versus reported frequency of discussing standardized test results with other teachers. Entries in the body of the table are numbers of teachers.

Amount of knowledge

	Discussion of test results	
KIT scores	Never or rarely	Sometimes or frequently
36-54	32	53
26-35	85	113
10-25	56	49
N	173	215

Chi-square = 5.15 $.10 > p > .05$

Amount of training

	Discussion of test results	
No. of courses	Never or rarely	Sometimes or frequently
3 or more	17	36
Two	24	54
One or none	133	123
N	174	213

Chi-square = 14.90; $p < .005$

The remaining parts of Hypothesis IV were tested only with the KIT knowledge score as the independent variable. Table X shows the relation found between the mean level of knowledge in a school and the frequency of reported levels of discussion of test results with other teachers. As predicted, teachers in schools with the higher KIT means more often reported the higher frequencies of discussion than did teachers in schools with low means.

TABLE X. Mean KIT score of school versus reported frequency of discussion of standardized test results with other teachers. Entries in body of table are numbers of teachers.

	Discussion of test results	
School mean KIT score	Never or rarely	Sometimes or freqently
32.0-40.8	25	54
29.0-31.9	66	81
24.0-28.9	77	79
N	168	214

Chi-square = 6.33; .05 > p > .025

The last part of our hypothesis dealt with the effects of mean level of knowledge among those with whom an individual finds himself. So far, we have found that teachers with more knowledge reported more discussion than teachers with less, and that discussion was typically more frequent in schools with higher mean knowledge than in schools with lower. However, there remains the question whether a rising level of technical knowledge in a faculty will spread communication more evenly among persons, or whether communication will still be concentrated on those persons who have relatively more knowledge. If a teacher typically prefers to initiate discussion about test results with another who has more knowledge than himself, even though his own technical competence is high, then we should expect that the relation between KIT score and reported frequency of discussion would remain significant whatever the mean level of knowledge in the school. On the other hand, it seems reasonable that there is a threshold effect here--that there is some level of knowledge, even if very roughly defined,which "entitles" one to discuss test results, so to speak. If this is true, then differences in knowledge among persons, all of whom are "above threshold" in knowledge, would have less effect in concentrating communication that would differences where some or many are below threshold. It is this latter prediction which we made in the last part of Hypothesis IV. The results of the analysis are shown in Table XI, and nicely bear out the prediction.

TABLE XI. KIT scores of individuals versus reported frequency of discussing standardized test results with other teachers, within schools with high, middle, and low mean KIT scores. Entries in the body of the table are numbers of teachers.

		Discussion of test results				
School mean on KIT	Individual KIT	Never or rarely	Sometimes or frequently	Total teachers	Chi-square	p
30.9-40.8 (9 schools)	36-54	20	30		Approx. zero	NS
	26-35	30	47			
	10-25	11	15			
	Total	61	92	153		
28.5-30.8 (10 schools)	36-54	8	17		2.31	NS
	26-35	33	34			
	10-25	17	23			
	Total	58	74	132		
24.0-28.4 (9 schools)	36-54	5	3		6.30	$<.05$
	26-35	22	28			
	10-25	31	14			
	Total	58	45	103		

Not only is the relation between KIT and frequency of discussing test results significant only in the schools with the lowest mean levels of knowledge, but the chi-square values are monotonic with school means as well.

The results of Tables IX, X, and XI imply the existence of a heightened readiness on the part of individuals with more technical knowledge about tests to engage in a greater amount of discussion of students' test scores with their colleagues. Although the amount of discussion taking place in a school is associated with the mean level of knowledge among the faculty, individuals stand out--as resource persons perhaps--if their higher level of knowledge is in contrast to a generally lower level in the school. These findings indicate that a good way for a principal to increase the amount of test discussion in his school would be to conduct an in-service program which increased the amount of technical knowledge possessed by his staff. Urging the values of testing upon a faculty may have little effect if not accompanied by an increase in technical competence, at least to a minimum level. Whether increased knowledge and wide-spread discussion leads to better use of test results, however, is a question yet to be investigated. Still another question these data leave unanswered is that of who talks to whom as knowledge rises. Do those with more knowledge talk chiefly among themselves, or to others also? This question is being pursued in another study under Contract 702 (8367).

Summary

Sub-study D undertook to examine teachers' attitudes toward information from tests, as well as some of the uses they find for test scores, in relation to their knowledge and training in the area of testing. Although using a relatively large sample of teachers, Sub-study D differed from Sub-study A--which also examined some of these same questions--in that two new instruments were developed to measure certain variables more precisely and meaningfully. The KIT was developed to assess technical knowledge about testing, and the Card Sort to assess the relative importance given to test results in making a relatively typical kind of decision about students: that of recommending them for placement in an accelerated science class.

Amount of technical knowledge of testing as measured by the KIT was found to be related to the number of kinds of standardized tests desired in the school. It was also found related to confidence in the information-giving value of test scores, as measured by a three-choice attitude item. Respondents with more quizzical attitude toward test results had higher scores on the KIT than did respondents with more extreme views of the value of test data.

In regard to methods of distributing test results to teachers, respondents with higher KIT scores were more often in favor of giving teachers test scores to keep and more often in favor of holding group meetings to discuss test results than were teachers with lower scores. Although the relation between the KIT and the variables just listed was in every case significant, the relation between these variables and the number of courses a teacher had taken in the technicalities of testing was in no case significant. Only one variable was significantly related to number of courses in testing while not at the same time significantly related to the KIT; teachers who had more courses in testing were more often in favor of discussing test results in individual conferences than were teachers with fewer courses.

An hypothesis current in discussions among testing experts is that teachers untrained in testing are likely to use tests in extreme ways, either placing too much or too little confidence in them; further, that additional training will lead to more judicious and moderate use of test scores. Because of the common interest in this question, we adopted it as one of the central hypotheses in our study.

First steps in testing this hypothesis were made using a three-choice attitude item and the T-NT score from the Card Sort. The hypothesis was supported by the first measure in that the more knowledgeable teachers tended to adopt a quizzical attitude. The hypothesis was *not* supported by the second measure; to the contrary, it was found that with increasing knowledge and training teachers put progressively *more* importance upon the value of test scores in making decisions about students. In other words, instead of the curvilinear relationship to be expected on the basis of the above hypothesis, the T-NT scores were found to be monotonically related to both KIT and number of courses in testing. The conflicting results led to a profitable reinterpretation of the T-NT score, and to a deeper insight into the ways in which "moderateness" in the use of test data can be manifested. Further work on this problem is in progress in another study under contract 702(8367).

Of particular interest in the findings just summarized, as well as in some of those about the effects of training and experience reported in Chapter II, is the difference in the strength of the relations obtained using a general measure of competence, such as number of courses in testing, and an objective measure, such as the KIT. Although the relations obtained with the KIT frequently agreed with the relations obtained with the broader measure, the relations are different often enough to point to the desirability of a two-stage analysis in studying the effects of training on test use. First, where technical cognitions and skills are the effective variables in some aspect of test use, it is well to remember that persons who pass a course in these matters will still vary widely in their retention of them some years later. Second, even in a technically and professionally oriented college course, learnings other than the technical learnings described in the syllabus result. These peripheral learnings may well have important effects on later attitudes toward test use. Where a teacher retains little of the technical skill but much of the attitudinal surround, his pattern of information-getting and information-use may be quite different from a teacher with the opposite combination of retention. In further research, we plan to examine course work taken, cognitive and attitudinal effects of the course work, and behavior in the school in regard to testing and other information-use, each in relation to the other.

A finding of this sub-study not yet mentioned in this summary was that knowledge of testing (KIT) and number of courses in testing were both related to reported frequency of discussing test results with other teachers. Further, we found that the relation between frequency of discussion and KIT was less and less pronounced as one examined schools with higher and higher mean levels of KIT score. This finding illustrates an expected effect of technical knowledge on the distribution of technical communication in a school. However, it may very well not be true that the "experts" talk only to each other and to no one else. The question of who talks to whom is being investigated in a later study, for which the finding in Sub-study D provides excellent exploratory underpinning.

Chapter VI

SUMMARY

Chapters II through V of this report exemplify attacks from four different angles upon the broad problem of teachers' use of test data and other information in working with high school students. The research comprises the initial stage of a long-range program aimed at providing answers to questions of optimum use of such data in decision making, as well as questions of how to influence individuals to adopt the attitudes and practices necessary for optimum use.

Chapter II describes a state-wide questionnaire survey of existing test practices and attitudes among teachers, counselors, and administrators in Illinois high schools of greater than 100 students. This study, called Sub-study A, included a survey of the attitudes toward guidance and counseling of approximately 1000 eleventh-grade students drawn from a random sample of 38 schools with an enrollment of at least 500.

We learned that the greatest amount of guidance and testing activity was going on in the larger schools--those typically staffed by the better trained and more experienced teachers, counselors, and administrators. We also found that the presence of well-trained counselors on a school's faculty did not relieve teachers of their feelings of responsibility in this area, but instead served to increase the amount of guidance activity among the total staff. Thus, teachers in schools in which there were several counselors tended to spend much more time gathering information about students and discussing this information with them and their parents than did teachers in schools with few or no counselors.

A strong halo effect was observed to be operating in large multi-counselor schools, particularly on the school principal. In such schools teachers, and especially principals, were prone to overestimate the amount of time teachers spent availing themselves of the information in the school's files, and tended to regard their total program with feelings of comfortable optimism. This understandable halo effect had some underpinning in reality: it was true that--in contrast to small, no-counselor schools--the larger multi-counselor schools had more elaborate testing programs, employed more adequate methods of disseminating test information to teachers, and were staffed with teachers who spent more time in actively seeking information about students and in discussing this information with them and their parents.

To supplement the above analyses, we initiated a search for some differences among students in multi-counselor and no-counselor schools which we assumed would occur as a result of the differences in the guidance and testing programs in these two types of schools. Surely, we reasoned, students in schools where markedly greater amounts of time and money were expended on guidance activities would exhibit attitudes and perceptions different from those of students in schools where the guidance effort was more limited.

In the questionnaire for students we asked, "What kind of knowledge do your teachers have about you?"--followed by the question, "What kind of knowledge ought your teachers have about you?" A comparison of the responses of students from large multi-counselor schools with those from smaller few- or no-counselor schools revealed practically no differences in teachers' knowledgeability as perceived by students. This finding was unexpected in the light of the more comprehensive test programs and the greater amount of information-gathering activity going on in the first type of school. It is possible, of course, that this lack of difference resulted from students' ignorance of the efforts expended by teachers in their behalf. Accordingly we turned to a type of assessment seemingly more valid; namely, an indirect measure of the effects of the guidance program upon students' self-knowledge and future plans.

Our measure of effectiveness was based upon students' responses to a series of questions about their vocational choices and plans. We reasoned that in schools where the program was highly effective, students would be more knowledgeable regarding the demands and requirements of the jobs they looked forward to entering. However, here again no differences were found. To the contrary, we learned that well over three-fourths of all students in both types of schools had acquired the occupational information they possessed from sources outside the counselor's office and outside the school as well.

We did find that from one-third to two-thirds of the students reported going to a counselor to talk over their plans and problems, and that the percentage who availed themselves of this opportunity was proportionately higher in schools with more counselors. It might seem likely, therefore, that the differential effects of the two types of guidance programs occurred predominantly in the area of personal problems, and that our questions were not appropriate for evaluating these effects. However, this interpretation seems doubtful in the light of our other data, since students in both types of schools overwhelmingly reported that teachers did not--but ought to--possess knowledge of their (the students') interests, aspirations, fears, and home-life.

In brief, our data argue that neither the understanding of students about the demands and requirements of their chosen occupation nor their perceptions of their teachers' knowledge of their interests, aspirations, fears, and home life were different in the two types of schools--large, multi-counselor schools and small, few- or no-counselor schools. These data stand in contrast to the data showing clear differences in amount of counseling activity in the two types of schools, even including the proportion of students visiting counselors to talk about their plans and problems. We should not, of course, conclude from the above findings that counseling activities have no effect upon students. We do conclude that the places--and ways--to look for the effects are not as obvious as we thought. Research which covers a wider range of possible effects and is more sensitive to subtle manifestations of effects is clearly needed.

Sub-study B, reported in Chapter III, describes an intensive in-service training program in testing for a small group of fifteen teachers in a large Illinois high school. These teachers were self-selected on the basis of interest in testing, and the program was designed to permit each one to pursue a test-oriented project possessing special significance for his own classroom work. The consultant for the program spent the majority of his time working individually with the participants in situ, helping each one design and carry through the project of his choice.

The first notable response of the participants to the training situation was the focus upon problems within the individual's own immediate surveillance; only one participant chose a project which required the collaboration of other staff members. This response, coupled with the outcomes of the follow-up study conducted by means of personal interview and mail questionnaire one year after the termination of the institute, revealed an interesting pattern. The follow-up outcomes were:

1. A majority of the participants were still actively engaged after a year's time in work on their original (or closely related) projects, and stated that were another such institute to be held they would again wish to enroll.

2. Non-participating teachers were almost totally unaware of the institute's existence, and even less aware of the specific projects carried on by the participants.

3. School administrators, although generally approving the program, strongly recommended that subsequent programs involve more of the total staff.

These findings led us to hypothesize that in situations where the new skills to be learned are not primarily inter-personal skills but rather skills to be practiced by individuals--as is the case with constructing, interpreting, and using tests--initial learning will be more rapid and later spread of effect more sure, if the projects of the participants during the first stage are activities over which they individually have primary control. Seeking (or subtly forcing) the involvement of other individuals at this early stage serves primarily to distract attention away from the learning itself to the problems involved in handling other people. Providing the freedom necessary to pursue a parochial project of one's own devising, however, not only heightens existing interest but also sharpens and intensifies the focus on the work itself.

If this hypothesis is correct, the administrator who desires to raise his faculty's general level of knowledge in some area might best succeed by freeing the few genuinely interested teachers to pursue individual, albeit intelligently supervised, work in the area. In this way he might form an educated nucleus which ultimately would have far more effect upon non-participating co-workers than would a program which, from the outset, pressed others into participation. In fact, as we show in another section of this report, teachers with the most knowledge about an area such as testing were the ones most prone to discuss testing matters with others, regardless of whether the latter's level of knowledge was equal to or below their own. This hypothesis argues, of course, that effects of this kind of training on non-participants are not likely to appear in the first year; they are likely to be measurable only after two or three years.

Sub-study C, reported in Chapter IV, consisted of an intensive study of factors which influence the teacher's decision-making process. While Sub-study A demonstrated that the average teacher spent sizeable amounts of out-of-class time in seeking information about students and discussing this information with them, it provided no clues as to the kinds of information teachers most valued, nor of the purposes for which teachers used this information. Accordingly, we undertook to develop realistic measures of teachers' behavior in a type of decision-situation frequently encountered by them in their work; namely, that of curricular placement.

The factors which influenced teachers' behavior in this type of situation were studied directly, by means of detailed individual questioning, and indirectly by means of a realistic problem-solving task called the Card Sort. In the Card Sort, teachers were presented with a complexity of test and other data--in the form of a cumulative student card--about each of 14 ficititious high school students, and were asked to decide which of these students should be enrolled in an accelerated science class and which should be retained in the regular science program. These cumulative record cards each contained (in varying combinations) information about the student's intelligence, achievement, and interest in the form of percentile test scores and also in the form of teachers' statements about the student's work. The cards were designed so that the picture each presented was a conflicting one. That is, on every card one piece of information would always point strongly to a decision opposite that indicated by the other three pieces. The amount of weight the respondent placed on this single contradictory piece of information in coming to a decision about which group the student should be assigned to was used as a measure of the value this kind of information held for the respondent.

Through a study of the raw scores made by the 34 respondents in our sample, and also through a correlational analysis, we learned (1) that teachers differed reliably in the value they placed on different kinds of information, and (2) that teachers' verbal statements regarding the factors which they believed to influence their decisions were very poorly related to the factors they placed greatest weight on in an actual problem-solving situation.

Because of the small sample these findings served mainly to establish the worth of our measurement technique. The more specific findings--for example, that our respondents tended to value test information more highly than teachers' judgements, that the amount of training in testing they had was unrelated to their behavior in decision-making situations of the type studied, etc.--were surely too much a function of these particular individuals to warrant detailed discussion. Such discussion is relegated to the following section, where our sample was sufficiently large to permit some tentative conclusions to be drawn.

The fourth sub-study, designated as Sub-study D and reported in Chapter V, consisted of an investigation of the relationship between teachers' knowledge about testing and their use of test data. The sample consisted of approximately 400 teachers drawn from a fairly representative group of 28 Illinois high schools.

Two measures of teachers' knowledge about testing were used: (1) their scores on a multiple-choice test entitled, "Knowledge and Interpretation of Tests" (the KIT); and (2) the number of college and graduate courses they had taken in the area of tests and measurement. Relations between these measures and teachers' attitudes toward the uses of test data were examined in some detail.

Of importance to future research in this area was the finding that "knowledge" as measured by the KIT was significantly related to most of our dependent variables in psychologically meaningful ways, whereas "knowledge" as measured by the number of courses in testing was only sporadically related to other variables. It became increasingly evident that it was not the amount of exposure the individual had that was determining his various test practices and attitudes, but the amount of objectively measurable knowledge he had retained as a result.

We learned that the more knowledgeable teachers were more prone (1) to desire the administration of a wide variety of tests to students in their school, (2) to hold a quizzical attitude--as opposed to an over-accepting or over-rejecting attitude--toward the value of test data in working with students, (3) to desire wide-spread faculty discussion of test results and their meaning, and (4) to engage in frequent discussions of tests and testing matters with their co-workers. When we examined the relationship between scores on the KIT and scores on the Card Sort (a version similar to that described above) we found that the more knowledgeable teachers tended to put greater faith in test data in coming to a decision about a student than they did in the subjective evaluations made by other teachers.

Many of the findings just cited illustrate the particular attention paid in Sub-study D to the hypothesis, current in discussions among testing experts, that teachers untrained in testing are likely to use tests in extreme ways, either placing too much or too little confidence in them. This hypothesis has received only tentative support from the results of our initial work. Our results did, however, suggest more sophisticated ways for testing it, and further work is now in progress under Contract 8367.

Since the research reported here was is the first phase of a larger program, some of its more important products were methodological--such as the KIT, the Card Sort, and the finding that teachers can describe only very poorly their own decision making processess--whereas others were estimations of the brute level of certain attitudes or reported practices--such as how many eleventh graders in Illinois feel that their teachers spend as much time as they ought to spend in getting to know their students, or how many mention school faculty members when asked to whom they usually go to talk over their plans and problems. Methodological developments and descriptive statistics are, or course, vitally necessary in carrying the work further.

Many of our substantive findings suggest important factors to be considered, not only in further research, but in training counselors and testing experts. We found, for example, that the relative amount of training in testing was related to the frequency with which teachers and principals discussed test results with parents and students, but not to the frequency with which counselors did so. This suggests that the experts' admonitions to counselors not to exceed the limits of their (the counselors') competence is often overridden by the pressures of the expectations on the job. As another example, we found a strong tendency for teachers to put greater weight on achievement and intelligence than on the student's interests in deciding whether the student should be placed in an accelerated science class. At the same time, many teachers who shared this view were ready to "veto" test scores as evidence of achievement or intelligence if other teachers' remarks about the student contradicted the test scores. This suggests, as had long been suspected, that for a sizeable number of teachers, test scores are useful only when information from the more preferred source of information--other teachers--is not available.

These are only two examples among those which could be drawn from our data. Others have been briefly touched upon in this summary, and some have not been mentioned at any point in this report because by themselves they lack meaning. These unreported findings, however, fit with those being turned up in research which is not a part of this contract;--research which leans heavily upon the work done under the present contract, both as a point of departure and as a source of corroborative evidence for the findings in the later work.

List of Appendices

PART I

Appendix 1: Research proposal--Appendix A to Contract 509(8141).

PART II--SUB-STUDY A

Appendix 2: Introductory letters and follow-up letters to participants.

3: Questionnaires for teachers, principals, counselors and students; and code manuals.

4: First report to participants.

PART III--SUB-STUDY B

Appendix 5: Questionnaire for teachers.

6: Test of Knowledge and Interpretation of Tests.

PART IV --SUB-STUDY C

Appendix 7: Interview schedule and questionnaire.

8: SSC Card Sort and scoring directions.

PART V--SUB-STUDY D

Appendix 9: SSD Card Sort, interview schedule, and scoring directions.

10: Questionnaire for teachers.

PART I

RESEARCH
PROPOSAL

APPENDIX 1

APPLICATION TO THE COMMISSIONER OF EDUCATION, U.S. DEPARTMENT OF HEALTH EDUCATION, AND WELFARE, FOR FUNDS TO SUPPORT RESEARCH UNDER THE PROVISIONS OF PUBLIC LAW 531, 83d CONGRESS, SUBMITTED BY:

University of Illinois on October 27, 1958.

Initiated by________________________ J. Thomas Hastings, Director
Unit on Evaluation
College of Education
University of Illinois
Urbana, Illinois

Transmitted by________________________ F. T. Wall, Chairman
University Research Board
University of Illinois
Urbana, Illinois

1. Title. The Use of Test Results.

2. Problem. Testing (e.g., of aptitude, achievement, personality) is widely accepted by public-school people as a useful source of information about students. The professional literature is studded with discussions and reports of the results of testing in the schools, but the problems of the proper utilization of these results have received relatively little systematic study. Ultimatley, the question which should be attacked is this: Given test results in the form of recorded numerals, graphs, written interpretations, and the like, what are the conditions of transmittal and reception which will increase attention to and application of this information by the appropriate persons? In our earlier proposal to the Commissioner of Education we illustrated the kind of research which we thought would illuminate this question by means of the following hypotheses:

   A. Teachers and couselors who receive queries from parents and pupils about the interpretation of test scores will be more likely to adopt suggested new uses for test scores and new attitudes toward them than teachers and counselors who do not receive queries from these sources.

   B. Given teachers for whom professional competence is a highly valued goal, those who perceive the use of test results as a mark of professional competence will be more likely to adopt new uses for test results and new attitudes toward them than will teachers who do not perceive test results as an important part of the materials of their profession.

   As we pointed out, considerable preliminary work would have to be done before a research crew would be ready to gather data in the field which would test such hypotheses as these. In the present application we propose an investigation much more restricted in scope; and we therefore shall propose new questions and hypotheses which would, in any program of research, have to precede studies of the broader influences on the use of test results.

   The practical question behind an investigation into the use of test results is not what kinds of test users and uses would be desirable ideally; rather, the inquiry must go into the present state of test use and into the kind of change needed in training users and communicating test results to bring about changes of practical significance.

The questions of who should use test results and how adequate personnel can be trained to provide the necessary guidance in the presnet-accelerated search for talent have recently become a national concern. For example, discussion of this topic occupied a large part of a recent meeting at Ann Arbor, Michigan, on May 28-31. The meeting was called by AAAS to discuss questions and issue proposals in testing and counseling. The testing section addressed itself to three matters:

1. Selection of scholarship recipients.
2. Large-scale testing programs for education and career planning.
3. Research proposals for action in the near future.*

Particularly in regard to the use of tests for educational and carrer planning, we hear about us many opinions. "Teachers should not be told the scores of their students on aptitude test, personality tests, and the like because they will misuse these scores." "Counselors with training at least do less harm than untrained persons." Such statements as these are frequently heard in regard to the use of misuse of test results. The hypothesis running through such statements is that teachers who are unsophisticated in the theory of testing will more often be found engaged in certain undesirable practices than will teachers are sophisticated. It is a matter of great economic importance at this time that this hypothesis be put to the test. (It may be, indeed, that untrained teachers make very little use of available test results. In such case they can certainly be doing very little "harm.") If, for one reason or another, untrained teachers only rarely commit the errors which we fear they might, the program for accelerating the training of counselors can be carried out in quite a different manner than it would be if these errors were widespread. Our goals in the present study then will be two: (1) to gather some descriptive statistics about the present use of test results in the secondary schools of the state of Illinois and (2) to test a few beginning hypotheses concerning the relation between training and the ways in which test results are used.

3. Other related research. Some foci which could be utilized in a broad program of research on the use of test results are shown in Appendix 1. There are available many theoretical discussions and applied researches which bear upon these various aspects of influencing the use of test results. A brief list of these is given in Appendix 2 along with some representative hypotheses which might be tested in future studies.

We are proposing here, however, to focus our research in this project almost entirely upon the potential test user. And, of the possible users of tests, we intend to focus upon teachers and formally designated counselors. In regard to this particular problem--that of describing the varieties and frequencies of actual test use in the public schools and in relating these uses to the kinds of persons (or the training of the persons) performing them--we find almost nothing at all in the literature.

---

*From the first-draft report of the Testing Group prepared by the Recorder, Paul Dressel, under the chairmanship of John M. Stalnaker.

4. Questions and/or hypotheses. This investigation would have two purposes--to collect some descriptive information and to test some hypotheses. These two objectives would be pursued by a variety of methods, which can be conveniently grouped under the headings of four "sub-studies."

A. Existing Test Use. Under Sub-study A our intention is to estimate the proportion of teachers in the state who practice certain uses of tests, hold certain attitudes about them, and perceive certain possibilities for tests whether or not they are now being realized. The major categories of information to be sought are represented by the following questions.

What uses are made of test results and other systematic data about students? What kinds of data (i.e., achievement, interests, personality, personal history, etc.) are used in what proportion? For what purposes are these data used? What interpretations or deductions are made from the data?

Who uses test results? Who is formally charged with putting test results to use? What assortments of duties do these people have? What training do they have?

What kinds of information do teachers use in making judgments about students? What are the sources of the information?

What systematic means of information-gathering about students are used by the schools?

What specific tests are used by the schools? What proportions of the various types (achievement, aptitude, interests, etc.) are used?

What use do students make of test results? How often are they aware that their teachers have acted on the basis of test results?

From the data gathered in answer to these questions we can state how much use is made of test results by teachers who have them available. Certain kinds of questions will be left for later experimental studies: for example, how much is test use increased (among those who previously used test results in various degrees) by furnishing the school or the teacher with results of more or different tests?

B. The Proviso Institute. One of the largest high schools in the state has invited our office to provide the "expertise" in testing during a series of in-service training activities to be held in the spring of 1959. Quite aside from the visits over five or six weeks for training purposes which our office will be undertaking on its own budget, this is an opportunity to take measures within a highly structured school hierarchy which is not offered by a Sub-study A. In Sub-study B we would examine the spread and variability of test use and opinion within a large school structure such as Proviso. Questions to be illuminated would be such as these:

How much variability in frequency and kind of test use occurs in a typical large high school?

What is the extent of role specialization in test use? How clear are the expectations teachers and students hold about testing and related matters as aspects of the roles of the various faculty positions? To what extent do they agree with each other about these expectations? What role conflicts are there?

What channels of information, formal and informal, exist in a large school for conveying test results and other related technical information?

The advantage of Proviso as a site for a study of this sort lies in the fact that a training insitute will be in progress. This institute can serve as a try-out of one method of influencing the use of test results. Much important methodological information, and perhaps even substantive, can be obtained very economically by the use of pre-testing and post-testing in this "natural" experiment. Vital information will be obtained of a kind which is essential to intelligent planning of research beyond the scope of the present contract.

C. Hypothesis Testing by Interview. As mentioned on page 2, it is an important part of our purpose to test certain basic assumptions about relation between test use and technical training, as this kind of relation may (or may not) exist in persons working in public school settings. The hypotheses which we hope to illuminate are those below.

Personnel (teachers, counselors, etc.) with more training (in counseling, test theory, or other pertinent subjects) or more knowledge (as indicated, for example, by a formal test) will more frequently use test results in arriving at decisions about students or will use a different pattern of information sources (e.g., tests of achievement, personality, interests, values, and of behavioral records, professional referrals, etc.) than will personnel with less training or knowledge.

In arriving at a judgment or decision about a student, personnel with more training in or more knowledge about testing will tend to give test results more moderate weight in relation to other information (behavioral records, course grades, conferences, etc.) while personnel with less training or knowledge will tend to give test results extreme weights--either resting the decision entirely upon test results or ignoring them.

The relation between training (or knowledge) on the part of personnel and the way the personnel utilize test results is linear (or curvilinear, or a step-function, etc.--a number of hypotheses about the shape of the relation might be tested if the data permit).

Students who are counseled by personnel having more training in or knowledge about the testing will tend less often to make decisions (e.g., choices of future schooling or occupation, subjective evaluations of their own abilities and other characteristics, etc.) which they justify by using test scores in extreme ways--either attributing the decision entirely to the test scores or ignoring them--while students counseled by personnel having less training or knowledge will tend more often to justify such decisions with extreme uses of test results.

Teachers' opinions about tests (their usefulness, meaningfulness, etc.) will be found to be correlated with the opinions of their students.

One procedure for testing these hypotheses will be to select a relatively small number of schools of varying characteristics, and conduct rather lengthy interviews in these schools with teachers, students, and administrators. The data collection which we do in this way will be called Sub-study C.

D. Hypothesis Testing by Questionnaire. Some amount of data-collection by interview (as in Sub-study C) is dictated by the kind of conclusions which we would like to draw from our results. We will wish to be more confident, after studying our results, in our ability to make accurate statements about the practices and attitudes to be found in regard to test results, and about the relations among these practices and attitudes and other factors. If our data are to increase our confidence about these matters, two characteristics of our data-collection will be important: (1) the salience of the attitudes expressed and (2) the spread of the attitudes, practices, and relations found over the varieties of existing schools--at least within the state of Illinois.

Through the "funnel" technique of interview design, we can hope to ascertain saliency of attitude. For obtaining data at random or widely spread over the state, however, interviews are much more expensive than questionnaires, and for this reason we turn to the latter to insure the representativeness of our results. This questionnaire study will be called Sub-study D.

5. Procedure. The general procedure has been indicated in various places above. The more detailed procedure for each sub-study in turn will now be laid out and after that some activities will be briefly described which are necessary for coordinating the sub-studies with each other, and for relating the entire study to earlier work and to subsequent investigations beyond the scope of this contract.

A. Existing Test Use. In investigating the uses of tests which exist (or which might exist under appropriate conditions), it is reasonable to expect that we shall find many teachers using tests to help them with questions like these:

Should the student repeat this course?
Does the student have the ability to take chemistry?
Should I let him enroll for Advanced Spanish?
Should I encourage the student to fix her determination upon becoming an airplane stewardess?
Is the ability of this student in handling numerical concepts in the range suitable to the college-level treatment of the public-health sciences?

But perhaps teachers also make judgments about students in matters where standardized tests are less often consulted:

Does this student have the ability to act efficiently in confused and ambiguous situations (such as a football play which goes awry, or scientific research in a new and uncharted field)?

What characteristics of productivity, perseverance, etc., will this student show under close supervision on the one hand or autonomy on the other?

And no doubt teachers make judgments in matters for which no standardized tests presently exist:

In what kind of group will he be a more effective member?
In what kind of group is he likely to be looked toward as a source of authority or decision?
What is the balance of motivation for this student between the demands of his peer-culture and his occupational goals?
What clarity of perception does this student have about the occupations which will recruit persons of his temperament or his interests, persons which graduate from his school and persons who do not, etc.?

The final data for analysis pertaining to Sub-study A would be obtained by mailed questionnaires. Before these questionnaires can be constructed, however, preliminary interviewing must be done to estimate the range of replies which can be expected among such possibilities as those illustrated just above. The topics used in interviewing teachers might be put together in the manner shown below, and comparable forms would have to be developed for school administrators and for students.

Illustrative Interview

Would you imagine yourself back in the classroom--yesterday, for example--and think of some happenings which made you form an opinion about a student. It might be an opinion about ability, or perhaps some quality of temperament, or just anything about what kind of person he might be. Could you give me an example or two?

In these examples, did other information come to your mind?--from previous acquaintance or from outside your classroom? Where was that information first obtained, do you know?

Do you sometimes find yourself forming opinions about what a student will do in the future? About what he will study, or how well, or how he will get along, or about any other thing which might happen to him in the future? Can you give an example or two of cases where you have formed such opinions?

What further information can you call to mind which would fill in these opinions?

Now, suppose you were interested in following up these judgments you made in more detail. Where could you go to get more information you could use? Which of these sources do you feel would be more dependable?

Sometimes your judgments about a student are just a matter of your own private curiosity--you come to a conclusion just because, like everyone, your observations and the thoughts that

> go along with them result in an opinion taking form. At other times, however, you must form a judgement because some action in regard to the student must be taken. Sometimes you yourself must take some action in regard to a student, and you do this on the basis of your judgment about him. Can you give me an example or two of this?
>
> What information lies behind your judgments in these cases? From where did the information come?
>
> Sometimes you must make a judgment so that someone else can take action in regard to a student. Perhaps someone else asks for your opinion so that he can take action, or perhaps you ask someone else to take action, and give him your judgment so that he can act more intelligently. Can you give me an example or two of this?
>
> What information lies behind your judgment in these cases? From where did the information come?
>
> About how often would you say you make decisions like these (specify)?
>
> What proportion of the decisions affecting the school career of the typical student in your classes would you say is made by you? What proportions by others?
>
> In certain of these cases, you said you wished you had more information. Where do you feel more information could have been obtained? What made it difficult to get? What kind of information would you like to have had if you didn't have to think about time or money? Do you think someone else could have got the information for you? What kind of person should do this? Do you think there are tests which give this kind of information? Would you find such information useful? Do you think tests could be made which would give this kind of information?

Such preliminary work in Sub-study A would require perhaps eight visits to schools at a mean distance from Urbana of 120 miles round trip, involving 10 or 12 interviewers. The longer of these trips, perhaps half of them, would require more than one day away from Urbana.

With information obtained from the preliminary interviews, we would be ready to design and carry out the state-wide questionnaire phase of Sub-study A. This would involve design and try-outs of the questionnaire themselves, preliminary correspondence and follow-ups, design of the sample, distribution of the questionnaires, and follow-ups, by letter and telephone. Using the term "address" to mean an individual reached within a school with preliminary correspondence, a questionnaire, and his share of follow-ups, we estimate that Sub-study A will require about 1500 such "addresses". This can be imagined as resulting from reaching about 600 schools containing an average of two and one-half addresses each. In some schools only one teacher would be addressed. In others, a teacher, an officially-appointed counselor, and the principal. In a few schools we would address a dozen or so students as well.

Sample

It would probably be best to send the questionnaires described above to the principal of every high school in the state--though we might omit from our population schools with enrollments of less than 100 or with enrollments over 2,000, or the schools of the city of Chicago, etc. Let us say that we send questionnaires to 600 schools.

A sample of this size is chosen for questions which seek to estimate the extent of some practice in the schools of Illinois because we are dealing with a finite population of (let us say) about 600. With such a population size, with a random probability of .5 that a school will show the practice, and with a 95% confidence interval, a confidence interval 2% wide would requre a sample of about 564, and a confidence interval 5% wide a sample of about 426. Approaches to all schools may yield a final number of returns as low as these latter figures. The kind of bias can be ascertained by follow-ups, and of course the amount of loss from lack of response can be reduced by these follow-ups. Our budget will allow mail and telephone follow-ups and a few personal visits.

The remarks so far have applied to Sub-study A, in which the prevalence of some practice or characteristic throughout the high schools of the state is estimated. In the testing of hypotheses in Sub-studies C and D below, such extensive sampling will not be necessary, since we shall be studying relations among "kinds" of schools, and in such comparisons the numbers needed are determined by the characteristics of statistical tests of hypotheses. In Sub-study B, we probably cannot quantify the reliability of most of the measurements we take, but the primary purpose of the sub-study is methodological rather than estimating or comparing.

B. The Proviso Institute. In addition to gathering data in a systematic way over the entire state, it is important that an intensive study be made of a small segment of the "material" which we are studying. Such a small segment would be one particular high school. The study of the thoughts and attitudes of the teachers and others in one school, the ways in which they influence each other, and the processes with which they respond to influence from outside--such study illuminates the data which were gathered more extensively but less deeply. The intensive study would provide a check on assumptions made in the spread-out study, and would provide suggestions for the design of subsequent studies to follow up the results of these present investigations.

Examples of instruments which if found suitable, might be purchased rather than built locally are the test of knowledge of testing "Problems Relating to the Use and Interpretation of College Board Scores", and the training booklet, "You: Today and Tomorrow", both produced by ETS, and "Practical Research Processes: A Guidebook in Research Methods for Practitioners in Education" by Fred P. Barnes of the Univ. of Ill. One advantage of using such intruments would be that our results could be compared with those of other researchers who have used the instruments. Devices such as these, whether purchased or locally made, would also be usable in testing the hypotheses to be dicussed below. Indeed, the Proviso Institute, held in the Spring, would provide a tryout for some of the instruments to be used in testing hypotheses during the following school year.

During one week of the Proviso Institute, the research staff employed under this contract would interview institute participants and others in the school, administer written instruments, obtain background information from files and elsewhere, observe, etc. Although some kinds of instruments which we have in mind have been mentioned just above, the detailed procedures must depend on further conferences with the people in the school itself.

Arranging this episode of measurement will require considerable correspondence and telephoning. It will require perhaps one or two trips to the school (300 miles round trip) by one or two persons previous to the week of actual data-collection. During the measurement week, perhaps six persons will be busy every day for five days. These persons could go to the community in one trip, stay there for the week, and return in one trip.

C. Hypothesis Testing by Interview. The hypotheses which we wish to put to test were listed beginning on page 4. The independent measures for use in testing the hypotheses would be such as these:

Hours spent in certain formal courses.

Years experience in formally designated counseling positions.

Score on a test of knowledge about testing or counseling such as those mentioned in the section just above as available by purchase.

The dependent measures would be such as these:

Ability to recall or estimate test scores of pupils.

Frequency (per conference or other unit) of mentioning testing explicitly in conferences with parents (or other teachers, etc.).

Frequency (per conference or other counseling unit) of looking up or explicitly mentioning test scores (or other kinds of information) in counseling pupils.

Assortment of information sources (various tests, course grades, behavioral records, etc.) used in the various situations described above.

Number of sources of information (tests, etc.) used (recalled or mentioned) in making a decision about a pupil.

Whether tests are used (recalled or mentioned) in association with other sources of information in a decision about a pupil.

Expression of opinion about the usefulness of tests.

Some preliminary interviewing would again be necessary in developing the final interview schedules for use in Sub-study C, and this same preliminary work would contribute to the questionnaires to be used in Sub-study D. Below are some examples of items which might appear in this preliminary work.

What are some of the more usual ways used by the teachers in your school to get information about the interests and aspirations of their students?

How much are you yourself interested in measuring the students' interests and aspirations?

( ) strongly interested
( ) moderately interested
( ) a little interested
( ) very little interested if at all

On the whole, how strongly interested are the teachers in your school in obtaining a measure of the personal or temperamental qualities of their students?

( ) strongly interested
( ) moderately interested
( ) a little interested
( ) very little interested if at all

What other purchased questionnaires, inventories, problem lists, or other information-gathering instruments does anyone use in your school? (If none beyond those listed under item 10, write "none.")

How would you rate yourself on ability to interpret standardized test results?

( ) expert
( ) very competent
( ) adequately competent
( ) not competent

What are the best ways, in your view, of improving the use of test results in the high schools of the state?

All told, Sub-study C would require perhaps 47 single-person trips to schools, averaging 150 miles round trip and one and one-half days Our intent would be to obtain schools categorized by enrollment and by whether a counselor was officially designated within the school, at minumum. We would design the sample for some further "break" if the budget seems to permit after the preliminary work is done. One way to select this sample would be by randomization within strata or categories, with analysis taking the form of analysis of variance or covariance.

D. Hypothesis Testing by Questionnaire. In Sub-study D we would send questionnaires and other communications to perhaps 1000 "addresses" or persons within schools. How these would be apportioned among teachers, counselors, administrators, and students will depend on how much information obtained by earlier methods we can use and how many of these mailings must be used to obtain current information. The distribution of these mailings between preliminary correspondence on the one hand and final questionnaires on the other, and among the various possible kinds of addressees must depend on the information collected during the foregoing sub-studies.

In order that non-responses do not hide important characteristics of our respondents in this comparatively small sample of schools (the "addresses" might be found among, say, 200 schools), we must provide for extensive follow-ups in this sub-study. As well as mail and telephone follow-ups, we have allowed for ten one-man, one-day trips of about 120 miles each

Reports, conclusions, and general. As well as expenses occasioned directly by the sub-studies described above, the plan for this research allows for time for writing reports and examining the results for implications for further research. Also provided for are general correspondence (e.g., to authors, consultants, and prospective employees) and intra-office memoranda, literature searches, and staff conferences. No non-expendable equipment is included.

Expected end product. The information about existing uses of test results and the relation between training and test result uses would provide the necessary information for important strategy decisions about future research into the ways of influencing the use of test results. We have briefly indicated what we feel to be the nature of the further research in the opening sections of this application.

6. Principal investigator. J. Thomas Hastings, Ph.D. in 1943 from University of Chicago; public schoolteacher in Indiana, 1934-39; Director of the Unit on Evaluation and in the College of Education at the University of Illinois since 1942, University Examiner since 1945; Assistant Director of American Council on Education Study of Educational Experiences in the Armed Services, 1943-44; consultant to the Department of the Army assigned to SCAP in Tokyo, Japan, 1950; has developed tests and consulting services of the Illinois Statewide Testing Program (see Appendix 3); has been active in consulting on the construction of tests and the uses of tests with University departments, Educational Testing Service, Illinois Curriculum Program, Illinois State Scholarship Commission, and other organizations; has been chairman for three years of the Fellowship Committee of the American Educational Research Association, and this year is chairman of the National Conference of Directors of State Testing Programs; member American Psychological Association, etc. Publications include:

Tensions and school achievement examinations. Journal of Experimental Education, 1944, 12, 143-164.

A guide to the evaluation of educational experiences in the armed services. Washington: American Council on Education; 1946. (with G. P. Tuttle)

Use of tests in educational personnel programs. Review of Education Research, 1954, 24, 166-171. (with J. V. McQuitty)

How can in-service training in measurement techniques be provided most effectively? In 1958 Yearbook of the National Council on Measurements Used in Education, in press.

See also Appendix 2.

Associate Investigator. Philip J. Rundel, Ph.D. in 1956 from University of Michigan; public schoolteacher in Panama Canal Zone, 1948-51; with the College of Education at the University of Illinois since 1955; Assistant Director of the Unit on Evaluation since 1956; consultant to Carnegie Corporation of New York and Dr. J. B. Conant, 1957; member American Educational Research Association committee on training of research workers and encouragement of research, 1958; editorial consultant to the Psychological Review, 1958; member American Psychological Association, etc. Publications include:

Cognitive similarity in facilitating communication. Sociometry, 1956, 19, 178-191.

Estimating interaction effects among overlapping pairs. Psychological Bulletin, 1957, 54, 152-158.

Some socioeconomic correlates of academic aptitude. Journal of Educational Psychology, 1958, 49, 47-52. (with K. Mohandessi)

7. Facilities. The Unit on Evaluation at the University of Illinois offers unusual advantages for carrying on studies of the kind proposed. Appendix 3 presents a description of the Unit on Evaluation and the Illinois Statewide Testing Program. About 550 schools participated in the Statewide Testing Program during the past year. We have established contact with enough schools so that a sufficient number will be available to permit the data to be "broken down" by a number of relevant variables even in studies where the school rather than the individual person would be the unit of analysis. If, following the presently proposed investigation, a long-term program of research were to be planned having a series of more or less self-contained smaller studies within it (and this would be the most economical way of conducting these studies), it would be possible to designate "blocks" of schools to be used for mutual controls while undergoing the successive "treatments."

8. Other support. Research into the use of test results in the public schools has regularly been a part of the work of the Unit on Evaluation. Using most of this regular, though small, allocation of time we have already made considerable investment in the proposed project by way of preliminary literature searches and tentative planning. However, the research which we can ordinarily conduct without outside aid is without the depth and breadth necessary to produce dependable new information about the use of test results.

   The University of Illinois would provide the salaries (at half time) of the principal and associate investigators as well as office space, utilities, office equipment, and the like.

9. Duration. This investigation would extend over 21 months. Sub-studies A and B would take place in the spring of 1959, and Sub-studies C and D during the academic year 1959-60. Finally, we have emphasized that we see the investigation proposed here as preliminary to a series of coordinated studies. Toward the end of the contract period we would make further proposals.

PART II

SUB-STUDY A

Appendix 2:

Introductory
letters and
follow-up letters
to participants.

We are mailing you under separate cover some materials inviting you and a few others in your school to participate in our Student Information Study. This study seeks to discover how teachers and administrators come to know things about students, what information about students they find useful, and the like. These questions are important in view of the current problems in locating special talents in students, and are equally important for the ever present goal of doing the best teaching we can. We believe the results of this research will be of direct help to Illinois Schools in focusing attention on the most useful kinds of information about students and the most effective ways of obtaining such information.

Because the Student Information Study is being conducted in Illinois schools for the benefit of Illinois schools, it is important that the participating schools accurately represent the schools of the state. Consequently, the "sample" has been very carefully drawn with the expectation that 100% of the invited schools will cooperate. The names of all participants -- as well as the names of all participating schools -- will be kept completely confidential. We will, of course, make reports of the study available to all participants who request them.

The materials we are sending and the instructions accompanying them have been carefully written and assembled so that you can, if you wish, leave it to your secretary to distribute them. No special arrangements are required: no meetings, no interruptions in your school's routine. All materials are completely self-explanatory. Merely give this letter to your secretary, and ask her to keep an eye out for a package containing SIS materials. She will find complete instructions inside the package.

We are sure you will find the materials interesting and worth while.

Very truly yours,

J. Thomas Hastings,
Director

This package contains the materials mentioned in our letter of a day or so ago. Enclosed are several differently colored questionnaires. Please distribute them to the individuals listed on the attached sheet.

It is of central importance in our research that all persons receive these materials on the same day, and that you return the attached sheet to us on that day. We realize that the on-going activities of any school make some days much more appropriate for distributing these materials than others. We are leaving it to your judgment to choose the day -- we hope within the next two or three -- which would best fit your school's schedule.

Thank you for your cooperation.

Sincerely yours,

J. Thomas Hastings,
Director

What do your teachers know about you?

Do you wish they knew more??? Or less???

The Student Information Study is sending questionnaires to selected schools in the state to help answer these and other questions.

Your School is one of those which has been selected to participate in this study, and you are one of thirty students who have been chosen to represent your school.

We are asking you to fill out a questionnaire giving us your ideas and opinions about these matters. It will take you about forty-five minutes or less to fill out this questionnaire.

PLEASE DO THESE THINGS

1. Go to the school office on your way to your next study period and ask for your copy of the Student Information Study questionnaire.
2. Go to your study hall and fill it out. Do not consult with other students about how to answer the questions. It is important that we get your opinions on these matters.
3. When you have completed the questionnaire, seal it in the stamped, self-addressed envelope which is clipped to it. This will make sure that your answers will be kept completely confidential. Then return the envelope to the school office to be mailed. (You may mail it yourself if you wish.)
4. If you do not have any study periods during the day, obtain your questionnaire from the office after school and fill it out before you go home. If even this is not possible for you, take the questionnaire home and fill it out that evening. Return it to the school office for mailing or mail it yourself.
5. Do not take the questionnaire home unless it is absolutely necessary. If you do take it home, please do not discuss the questions with your parents or friends until AFTER you have filled it out. This is because we want your ideas and opinions, not theirs.
6. It is of the highest importance that you fill out this questionnaire and get it in the mail today or tomorrow, even if tomorrow happens to be Saturday!

A week or so ago we wrote inviting you and a few other members of your school to participate in the Student Information Study. Soon afterward we sent a package of questionnaire materials to your school. As explained in the questionnaires, the purposes of the study are to discover how teachers gain information about their students, what kinds of information they obtain, and what uses they find for such knowledge.

We fully realize that this time of year is a heavy one for school people, and we believe that our failure to hear from you is due to the number and importance of things demanding your attention and not to any unwillingness on your part to devote an hour of your time to this research.

To help us maintain the accuracy of our records, would you kindly mark and return the enclosed post-card?

Very truly yours,

J. Thomas Hastings
Director

Appendix 3:

Questionnaires for teachers, principals, counselors, and students.

Student Information Study

QUESTIONNAIRE FOR TEACHERS

Your principal is permitting you
to receive this questionnaire through
the school office. Please read the
introductory paragraphs NOW.

Please
not wr
in thi
margin

This questionnaire is an important part of a statewide study of current school practices as viewed by principals, guidance counselors, teachers, and students. We are conducting this study under a research contract with the United States Office of Education.

Your school is one of those in the State of Illinois which has been selected to participate in this study--and you have been selected as one of the few who are to represent your school. It is of great importance that we receive this questionnaire from you promptly. We hope you can mail it to us within the next two days.

Almost everyone completes this questionnaire in well under an hour. Please return it to us as soon as you have filled it out in the self-addressed and stamped envelope attached. We are employing this somewhat expensive procedure to insure that your responses will be kept completely confidential.

Name:______________________________ Sex: M__ F__

School:______________________________ Date:__________

1. How many classes do you teach per day? ______ 13☐
2. What is the average number of students per class (approx.)? ______ 14-15
3. What subjects do you teach?________________________ 16☐
____________________________________ 17☐
4. How long have you been a teacher? ______ years 18-19
5. How long have you been at this school? ______ years 20-21
6. What is the highest degree you hold? ______ 22☐
7. In what year did you obtain this degree? ______ 23-24
8. How many semester hours do you have toward your next degree? ______ 25-26

UNIVERSITY OF ILLINOIS
Bureau of Educational Research
Champaign, Illinois

Please do not write in this margin

> To make answering easy, we have put as many of these questions as possible into multiple-choice and yes-no form. However, please feel free to write in comments wherever you think necessary. If you are not sure of the answers to some of the questions, please do not take time to look them up or consult with others. Merely give us your best guess and go on to the next question.

ALL OF YOUR RESPONSES WILL BE KEPT COMPLETELY CONFIDENTIAL

9. Practically all schools keep some kind of cumulative records on their students which are available to teachers. Do you feel that the information which your school obtains and files about students is sufficient?

Yes ____ No ____ 27
1 0

(Use this space if you care to comment.)____________________ 28☐

____

____

10. On the opposite page is a list of several kinds of information a teacher could obtain about his students, either from school files or on his own. Please do three things.

First: Place an X in Column 1 after each type of information that can be found in your school's files.

Second: Keeping in mind a teacher's daily load, place an X in Column 2 after each type of information you feel is of primary importance for a teacher to have for every student in order to do an effective job of teaching, regardless of whether this information is in your school's files.

Third: Now assume that the schedule could be arranged so that you had an additional free period each week. Place an X in Column 3 after whatever further kinds of information--if any--you would spend part of this time to obtain. Do not mark more than three.

Kind of Information	Column 1 In School Files	Column 2 Should Have	Column 3 Desirable Additions	Please do not write in this margin
Performance in school subjects				0
Family and home life				1
Non-academic skills and abilities				2
Intelligence and academic aptitude				3
Fears and worries				4
Aesthetic and artistic abilities				5
Aspirations and ambitions				6
Interests				7
Personality and character				8
Health				9
Other (specify)				y
	(29)	(30)	(31)	

11. Suppose you wanted to obtain information about the things in the list on the preceding page. For each kind of information, place an X to indicate the way or ways you think are best for obtaining it.

Please do not write in this margin

of Information	Observe the student	Ask the student	Ask other students	Ask other teachers	Ask the parents	Ask other adults	Administer a test	Check school records	
ormance in ol subjects									/0/
ly and life									/1/
academic skills bilities									/2/
lligence and emic aptitude									/3/
s and worries									/4/
netic and tic abilities									/5/
rations and ions									/6/
ests									/7/
nality and . cter									/8/
h									/9/
	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	

12. Take the one column in which you have placed the largest number of marks. Why do you feel that this method is more valuable than the others?

____ 40/ /

____

____

13. Take the column in which you have placed the second largest number of marks. Why do you feel that this method is more valuable than the others?

____ 41/ /

____

____

Please do not write in this margin

14. Apart from the actual time you spend in the classroom, about how often do you take time out to gather information about students? (For example, looking up records, conferring with parents, consulting with the guidance counselor, etc.)

Approximately one hour per semester ___ 0 42
Approximately one hour per month ___ 1
Approximately one hour per week ___ 2
More than one hour per week ___ 3

15. How much time do you think you ought to spend in gathering information about students?

Approximately one hour per semester ___ 0 43
Approximately one hour per month ___ 1
Approximately one hour per week ___ 2 ---4
More than one hour per week ___ 3

16. Within the past two years, has your school made any innovations or changes in its testing program, its guidance program, or its counseling services?

Yes ___ No ___ 48☐
0

If yes, please describe: ______________________________

____

____

17. Below is a list of six different kinds of tests. Please do two things.

First: Place an X in Column 1 if this kind of test is administered in your school.

Second: Place an X in Column 2 if you think this kind of test ought to be administered in your school, regardless of whether it presently is.

Kind of Test	Column 1: Is now administered	Column 2: Ought to be administered	
Intelligence			0
Academic aptitude (college preparatory)			1
Achievement in subject fields			2
Achievement in reading			3
Interest			4
Personality			5
	(49)	(50)	

Please do not write in this margin

18. About how many of the other teachers in the school do you think would check Column 2 the way you did? 51

Almost all	___	3
More than half	___	2
Less than half	___	1
Almost none	___	0

19. Would the administration check Column 2 the way you did?

Yes ___ 1 No ___ 0 52☐

(Use this space if you care to comment.) ______________________________

____

____

20. Does your school participate in the Illinois Statewide High School Testing Program?

Yes ___ 1 No ___ 0 Uncertain ___ 2 53

21. How do you and the other teachers find out what test scores students made, once the scores are reported to the school?

____ 54☐

____

____

22. About how many teachers in your school would you say make it a point to look up the test scores of students? 55

Almost all	___	3
More than half	___	2
Less than half	___	1
Almost none	___	0

Please do not write in this margin

23-26. Here are three commonly held attitudes regarding a student's test scores:

A. A test score is a valuable piece of information which answers many of the questions I have about my students.

B. A test score is a valuable piece of information useful in raising important questions in my mind about my students.

C. A test score is an interesting piece of technical information but possesses little or no value for the on-going activities of the classroom.

23. How many of the teachers in your school would you say hold Attitude A?

Almost all ___ 3   Less than half ___ 1
More than half ___ 2   Almost none ___ 0   56

24. How many would you say hold Attitude B?

Almost all ___ 3   Less than half ___ 1
More than half ___ 2   Almost none ___ 0   57

25. How many would you say hold Attitude C?

Almost all ___ 3   Less than half ___ 1
More than half ___ 2   Almost none ___ 0   58

26. Of these attitudes, which one is most like your own?

Attitude A ___ 0   Attitude B ___ 1   Attitude C ___ 2   59

27. Here are two commonly held attitudes regarding the use of tests by principals and teachers. Place an X before the attitude which is most like your own.

___ 0 A. Principals and teachers should not use tests and test results in making decisions about students unless they have had substantial training in the technicalities of testing.   60

___ 1 B. The general training which all principals and teachers receive in the course of their college work is sufficient to enable them to use tests and test results intelligently.

Please do not write in this margin

28. How much formal training in the technicalities of testing do you think a teacher should have?

At least three courses (9 semester hours) ___ 3
At least two courses (6 semester hours) ___ 2
At least one course (3 semester hours) ___ 1
No formal course necessary ___ 0

61

29. How much formal training in the technicalities of testing do you think a principal should have?

At least three courses (9 semester hours) ___ 3
At least two courses (6 semester hours) ___ 2
At least one course (3 semester hours) ___ 1
No formal course necessary ___ 0

62

---1

30. How much formal training in this area have you yourself had?

Three courses ___ 3
Two courses ___ 2
One course ___ 1
None ___ 0

64

31. Does your school ever give test results to parents?

Yes ___ No ___ 0 Uncertain ___ 2

65 ☐

If yes, how and on what occasions or under what circumstances is this done?

____

____

____

32. In talking with parents about their children, do you discuss test results with them?

Frequently ___ 3
Sometimes ___ 2
Rarely ___ 1
Never ___ 0

66

33. Does your school ever give test results to students?

Yes ___ No ___ 0 Uncertain ___ 2

67 ☐

If yes, how and on what occasions or under what circumstances is this done?

____

____

____

34. In talking with students about their plans and problems, do you discuss test results with them?

Please do not write in this margin 68

Frequently ___	3	Rarely ___	1
Sometimes ___	2	Never ___	0

35. Here are three commonly held attitudes regarding the use of students' performance on standardized tests to evaluate teaching effectiveness. Place an X before the attitude which is most like your own.

---5

___ A. A principal is thoroughly justified in using students' test scores as one means of evaluating how effectively a teacher is doing his job.
0

___ B. A principal is never justified in using students' test scores to evaluate how effectively a teacher is doing his job, but the teacher himself should use the scores for self-evaluation.
1

74

___ C. Students' test scores should not be used in any way to evaluate teaching effectiveness.
2

We would appreciate any further comments you have about how teachers learn to know the students in your school and what uses they find for such knowledge:

____

75☐

____

____

______________________________(Use back of page for more space.)

Please seal this questionnaire in the attached envelope and mail it. Be sure you have put your name and the name of the school on the first page. This is solely to enable us correctly to group your responses with those of others. Your identity will never be revealed.

Thank you for your help.

A preliminary report on this study will probably be ready in August or September. If you would like us to send you a copy, please write below your name and the address to which you would like it sent.

____

____

____

Student Information Study

QUESTIONNAIRE FOR PRINCIPALS

Please do not write in this margin

This questionnaire is an important part of a statewide study of current school practices as viewed by principals, guidance counselors, teachers, and students. We are conducting this study under a research contract with the United States Office of Education.

Your school is one of those in the State of Illinois which has been selected to participate in this study. It is of great importance that we receive this questionnaire from you promptly. We hope you can mail it to us within the next two days.

Almost everyone completes this questionnaire in well under an hour. A self-addressed and stamped envelope is attached. Your responses will be kept completely confidential.

Name: ______________________________ Sex: M___ F___

School: ______________________________ Date: __________

1. How many students are in your school? ________ 9-12
2. How many teachers do you have? ________ 13-15
3. How many counselors do you have? (Count only persons who devote 50% or more of their time to guidance.) ________ 16-17
4. How long have you been a principal? ________ years 18-19
5. How long have you held your present position? ________ years 20-21
6. What is the highest degree you hold? ________ 22☐
7. In what year did you obtain this degree? ________ 23-24
8. How many semester hours do you have toward your next degree? ________ 25-26

UNIVERSITY OF ILLINOIS

Bureau of Educational Research

Champaign, Illinois

Please do not write in this margin

> To make answering easy, we have put as many of these questions as possible into multiple-choice and yes-no form. However, please feel free to write in comments wherever you think necessary. If you are not sure of the answers to some of the questions, please do not take time to look them up or consult with others. Merely give us your best guess and go on to the next question.

ALL OF YOUR RESPONSES WILL BE KEPT COMPLETELY CONFIDENTIAL

9. Practically all schools keep some kind of cumulative records on their students which are available to teachers. Do you feel that the information which your school obtains and files about students is sufficient?

Yes ___ No ___ 27
1 0

(Use this space if you care to comment.) ______________________ 28☐

____

____

10. On the opposite page is a list of several kinds of information a teacher could obtain about his students, either from school files or on his own. Please do three things.

First: Place an X in Column 1 after each type of information that can be found in your school's files.

Second: Keeping in mind a teacher's daily load, place an X in Column 2 after each type of information you feel is of primary importance for a teacher to have for every student in order to do an effective job of teaching, regardless of whether this information is in your school's files.

Third: Now assume that the schedule could be arranged so that every teacher had an additional free period each week. Place an X in Column 3 after whatever further kinds of information--if any--you feel each teacher should spend part of this time to obtain. Do not mark more than three.

Kind of Information	Column 1 In School Files	Column 2 Should Have	Column 3 Desirable Additions	Please do not write in this margin
Performance in school subjects				0
Family and home life				1
Non-academic skills and abilities				2
Intelligence and academic aptitude				3
Fears and worries				4
Aesthetic and artistic abilities				5
Aspirations and ambitions				6
Interests				7
Personality and character				8
Health				9
Other (specify)				y
	(29)	(30)	(31)	

11. Suppose a teacher wanted to obtain information about the things in the list on the preceding page. For each kind of information, place an X to indicate which way or ways you think are best for obtaining it.

Please do not write in this margin

Kind of Information	Observe the student	Ask the student	Ask other students	Ask other teachers	Ask the parents	Ask other adults	Administer a test	Check school records	
Performance in school subjects									0
Family and home life									1
Non-academic skills and abilities									2
Intelligence and academic aptitude									3
Fears and worries									4
Aesthetic and artistic abilities									5
Aspirations and ambitions									6
Interests									7
Personality and character									8
Health									9
	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	

12. Take the one column in which you have placed the largest number of marks. Why do you feel that this method is more valuable than the others?

40

13. Take the column in which you have placed the second largest number of marks. Why do you feel that this method is more valuable than the others?

41

Please do not write in this margin

14. Apart from the actual time they spend in the classroom, about how often would you say that most of your teachers take time out to gather information about students? (For example, looking up records, conferring with parents, consulting with the guidance counselor, etc.)

Approximately one hour per semester ___ 0 42
Approximately one hour per month ___ 1
Approximately one hour per week ___ 2
More than one hour per week ___ 3

15. How much time do you think your teachers ought to spend in gathering information about students?

Approximately one hour per semester ___ 0 43
Approximately one hour per month ___ 1
Approximately one hour per week ___ 2 ---4
More than one hour per week ___ 3

16. Within the past two years, has your school made any innovations or changes in its testing program, its guidance program, or its counseling services?

Yes ___ No ___ 48/▱
0

If yes, please describe: ____________________

____

____

17. Below is a list of six different kinds of tests. Please do two things.

First: Place an X in Column 1 if this kind of test is administered in your school.

Second: Place an X in Column 2 if you think this kind of test ought to be administered in your school, regardless of whether it presently is.

Kind of Test	Column 1: Is now administered	Column 2: Ought to be administered	
Intelligence			0
Academic aptitude (college preparatory)			1
Achievement in subject fields			2
Achievement in reading			3
Interest			4
Personality			5
	(49)	(50)	

Please do not write in this margin

18. About how many of your teachers do you think would check Column 2 the way you did?

Almost all ___ 3   Less than half ___ 1
More than half ___ 2   Almost none ___ 0   51

19. How do your teachers find out what test scores their students made once these scores are reported to the school?   ---2

___________________   54 ☐

____

____

20. About how many of your teachers would you say make it a point to look up the test scores of their students?

Almost all ___ 3   Less than half ___ 1   55
More than half ___ 2   Almost none ___ 0

21-24. Here are three commonly held attitudes regarding a student's test scores:

A. A test score is a valuable piece of information which answers many of the questions I have about my students.

B. A test score is a valuable piece of information useful in raising important questions in my mind about my students.

C. A test score is an interesting piece of technical information but possesses little or no value for the on-going activities of the classroom.

21. How many of the teachers in your school would you say hold Attitude A?

Almost all ___ 3   Less than half ___ 1   56
More than half ___ 2   Almost none ___ 0

22. How many would you say hold Attitude B?

Almost all ___ 3   Less than half ___ 1   57
More than half ___ 2   Almost none ___ 0

23. How many would you say hold Attitude C?

Almost all ___ 3   Less than half ___ 1   58
More than half ___ 2   Almost none ___ 0

24. Of these attitudes, which one comes closest to the one you would prefer your teachers to hold?

Attitude A ___ 0   Attitude B ___ 1   Attitude C ___ 2   59

25. Here are two commonly held attitudes regarding the use of tests by principals and teachers. Place an X before the attitude which is most like your own.

Please do not write in this margin

___ A. Principals and teachers should not use tests and test results in making decisions about students unless they have had substantial training in the technicalities of testing. 60
0

___ B. The general training which all principals and teachers receive in the course of their college work is sufficient to enable them to use tests and test results intelligently.
1

26. How much formal training in the technicalities of testing do you think a teacher should have?

At least three courses (9 semester hours) ___ 3 61
At least two courses (6 semester hours) ___ 2
At least one course (3 semester hours) ___ 1
No formal course necessary ___ 0

27. How much formal training in the technicalities of testing do you think a principal should have?

At least three courses (9 semester hours) ___ 3 62
At least two courses (6 semester hours) ___ 2
At least one course (3 semester hours) ___ 1 ---1
No formal course necessary ___ 0

28. How much formal training in this area have you yourself had?

Three courses ___ 3 One course ___ 1 64
Two courses ___ 2 None ___ 0

29. Does your school ever give test results to parents? Yes ___ No ___ 65 ☐
0

If yes, how and on what occasions or under what circumstances is this done?

____

____

____

30. In talking with parents about their children, do you discuss test results with them?

Frequently ___ 3 Rarely ___ 1 66
Sometimes ___ 2 Never ___ 0

Please do
not write
in this
margin

31. Does your school ever give test results to students? Yes ___ No ___ 0

If yes, how and on what occasions or under what circumstances is this done?

____

____

____

____

67/☐

32. In talking with students about their plans and problems, do you discuss test results with them?

Frequently	___	3	Rarely	___	1
Sometimes	___	2	Never	___	0

68

---5

33. Here are three commonly held attitudes regarding the use of students' performance on standardized tests to evaluate teaching effectiveness. Place an X before the attitude which is most like your own.

___ 0 A. A principal is thoroughly justified in using students' test scores as one means of evaluating how effectively a teacher is doing his job.

___ 1 B. A principal is never justified in using students' test scores to evaluate how effectively a teacher is doing his job, but the teacher himself should use the scores for self-evaluation.

74

___ 2 C. Students' test scores should not be used in any way to evaluate teaching effectiveness.

We would appreciate any further comments you have about how teachers learn to know the students in your school and what uses they find for such knowledge:

____

75/☐

____

____

______________________ (Use next page for more space.)

Please seal this questionnaire in the attached envelope and mail it. Be sure you have put your name and the name of the school on the first page. This is solely to enable us correctly to group your responses with those of others. Your identity will never be revealed.

Thank you for your help.

A preliminary report on this study will probably be ready in August or September. If you would like us to send you a copy, please write below your name and the address to which you would like it sent.

____

____

____

Student Information Study

QUESTIONNAIRE FOR COUNSELORS

Your principal is permitting you
to receive this questionnaire through
the school office. Please read the
introductory paragraphs NOW.

This questionnaire is an important part of a statewide study of current school practices as viewed by principals, guidance counselors, teachers, and students. We are conducting this study under a research contract with the United States Office of Education.

Please do not write in this margin

Your school is one of those in the State of Illinois which has been selected to participate in this study--and you have been selected as one of the few who are to represent your school. It is of great importance that we receive this questionnaire from you promptly. We hope you can mail it to us within the next two days.

Almost everyone completes this questionnaire in well under an hour. Please return it to us as soon as you have filled it out in the self-addressed and stamped envelope attached. We are employing this somewhat expensive procedure to insure that your responses will be kept completely confidential:

Name:________________________________ Sex: M___ F___

School:________________________________ Date:__________

1. How much of your time is assigned for counseling?

Less than 50% ___ 0
More than 50% but not all ___ 1 11
Full time ___ 2

2. How many students are specifically assigned to you as your responsibility? ________ 12-15

3. What is the average number of students you counsel each day?________ 16-17

4. How long have you been a counselor? ________years 18-19

5. How long have you been at this school (either as counselor or as teacher)? ________years 20-21

6. What is the highest degree you hold? ________ 22 ☐

7. In what year did you obtain this degree? ________ 23-24

8. How many semester hours do you have toward your next degree?________ 25-26

UNIVERSITY OF ILLINOIS
Bureau of Educational Research
Champaign, Illinois

Please do not write in this margin

: To make answering easy, we have put as many of these questions as possible into multiple-choice and yes-no form. However, please feel free to write in comments wherever you think necessary. If you are not sure of the answers to some of the questions, please do not take time to look them up or consult with others. Merely give us your best guess and go on to the next question. :

ALL RESPONSES WILL BE KEPT COMPLETELY CONFIDENTIAL

9. Practically all schools keep some kind of cumulative records on their students which are available to teachers. Do you feel that the information which your school obtains and files about students is sufficient?

Yes___ No___ 27
1 0

(Use this space if you care to comment.)____________________ 28☐

____

____

10. On the opposite page is a list of several kinds of information a teacher could obtain about his students, either from school files or on his own. Please do three things.

First: Place an X in Column 1 after each type of information that can be found in your school's files.

Second: Keeping in mind a teacher's daily load, place an X in Column 2 after each type of information you feel is of primary importance for a teacher to have for every student in order to do an effective job of teaching, regardless of whether this information is in your school's files.

Third: Now assume that the schedule could be arranged so that every teacher had an additional free period each week. Place an X in Column 3 after whatever further kinds of information--if any--you feel each teacher should spend part of this time to obtain. Do not mark more than three.

Kind of Information	Column 1 In School Files	Column 2 Should Have	Column 3 Desirable Additions	Please do not write in this margin
Performance in school subjects				/0/
Family and home life				/1/
Non-academic skills and abilities				/2/
Intelligence and academic aptitude				/3/
Fears and worries				/4/
Aesthetic and artistic abilities				/5/
Aspirations and ambitions				/6/
Interests				/7/
Personality and character				/8/
Health				/9/
Other (specify)				/y/
	(29)	(30)	(31)	

11. Suppose a teacher wanted to obtain information about the things in the list on the preceding page. For each kind of information, place an X to indicate the way or ways you think are best for obtaining it.

Please do
not write
in this
margin

Kind of Information	Observe the student	Ask the student	Ask other students	Ask other teachers	Ask the parents	Ask other adults	Administer a test	Check school records	
Performance in school subjects									0
Family and home life									1
Non-academic skills and abilities									2
Intelligence and academic aptitude									3
Fears and worries									4
Aesthetic and artistic abilities									5
Aspirations and ambitions									6
Interests									7
Personality and character									8
Health									9
	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	

12. Take the one column in which you have placed the largest number of marks. Why do you feel that this method is more valuable than the others?

____ 40☐

____

____

13. Take the column in which you have placed the second largest number of marks. Why do you feel that this method is more valuable than the others?

____ 41☐

____

____

Please do not write in this margin

14. In the course of a year, approximately how many of the teachers take time out to come to you and request information about their students?

Almost all ___ 3
More than half ___ 2
Less than half ___ 1 42
Almost none ___ 0

15. Of the teachers who do come to you for information, approximately how often do most of them come?

Once a year ___ 0 43
Once a semester ___ 1
Twice a semester ___ 2
More than twice a semester ___ 3

16. What are the more frequent kinds of questions or problems with which teachers come to you?

______________________________ 44☐

______________________________ 45☐

______________________________ 46☐

17. In talking with teachers about their students, do you disucss test results with them?

Frequently ___ 3 47
Sometimes ___ 2
Rarely ___ 1
Never ___ 0

18. Within the past two years, has your school made any innovations or changes in its testing program, its guidance program, or its counseling services?

Yes ___ No ___ 48☐
0

If yes, please describe: ______________________________

____

____

Please do not write in this margin

19. Below is a list of six different kinds of tests. Please do two things.

First: Place an X in Column 1 if this kind of test is administered in your school.

Second: Place an X in Column 2 if you think this kind of test ought to be administered in your school, regardless of whether it presently is.

Kind of Test	Column 1: Is now administered	Column 2: Ought to be administered	
Intelligence			0
Academic aptitude (college preparatory)			1
Achievement in subject fields			2
Achievement in reading			3
Interest			4
Personality			5
	(49)	(50)	

20. About how many of the other teachers in the school do you think would check Column 2 the way you did?

Almost all ___ 3 Less than half ___ 1 51
More than half ___ 2 Almost none ___ 0

21. Would the administration check Column 2 the way you did?

Yes ___ 1 No ___ 0 52

---1

(Use this space if you care to comment.)___________________

____

____

22. How do the teachers in your school find out what test scores their students made, once these scores are reported to the school?

___________________ 54

____

23. About how many teachers in your school would you say make it a point to look up the test scores of students?

Almost all ___ 3 Less than half ___ 1 55
More than half ___ 2 Almost none ___ 0

Please do not write in this margin

24-27. Here are three commonly held attitudes regarding a student's test scores.

A. A test score is a valuable piece of information which answers many of the questions I have about my students.

B. A test score is a valuable piece of information useful in raising important questions in my mind about my students.

C. A test score is an interesting piece of technical information but possesses little or no value for the on-going activities of the classroom.

24. How many of the teachers in your school would you say hold Attitude A?

Almost all ___ 3 Less than half ___ 1 56
More than half ___ 2 Almost none ___ 0

25. How many would you say hold Attitude B?

Almost all ___ 3 Less than half ___ 1 57
More than half ___ 2 Almost none ___ 0

26. How many would you say hold Attitude C?

Almost all ___ 3 Less than half ___ 1 58
More than half ___ 2 Almost none ___ 0

27. Of these attitudes, which one comes closest to the one you think teachers ought to hold?

Attitude A ___ 0 Attitude B ___ 1 Attitude C ___ 2 59

28. Here are two commonly held attitudes regarding the use of tests by principals and teachers. Place an X before the one which is most like your own.

___ 0 A. Principals and teachers should not use tests and test results in making decisions about students unless they have had some special training in the technicalities of testing. 60

___ 1 B. The general training which all principals and teachers receive in the course of their college work is sufficient to enable them to use tests and test results intelligently.

Please do not write in this margin

29. How much formal training in the technicalities of testing do you think a teacher should have?

At least three courses (9 semester hours) ___ 3
At least two courses (6 semester hours) ___ 2
At least one course (3 semester hours) ___ 1 61
No formal course necessary ___ 0

30. How much formal training in the technicalities of testing do you think a principal should have?

At least three courses (9 semester hours) ___ 3
At least two courses (6 semester hours) ___ 2 62
At least one course (3 semester hours) ___ 1
No formal course necessary ___ 0

31. How much formal training in the technicalities of testing do you think a counselor should have?

At least three courses (9 semester hours) ___ 3
At least two courses (6 semester hours) ___ 2 63
At least one course (3 semester hours) ___ 1
No formal course necessary ___ 0

32. How much formal training in this area have you yourself had?

More than three courses ___ 3 Two courses ___ 1 64
Three courses ___ 2 One course ___ 0

33. Does your school ever give test results to parents? Yes___ No___ 65☐
0

If yes, how and on what occasions or under what circumstances is this done?

___

___

___

34. In talking with parents about their children, do you discuss test results with them?

Frequently ___ 3 Rarely ___ 1 66
Sometimes ___ 2 Never ___ 0

35. Does your school ever give test results to students? Yes___ No___ 67☐
0

If yes, how and on what occasions or under what circumstances is this done?

___

___

___

Please do not write in this margin

36. In talking with students about their plans and problems, do you discuss their test results with them?

Frequently ___ 3 Rarely ___ 1
Sometimes ___ 2 Never ___ 0 68

37. Of the students you see each week, approximately what percent are referred by teachers and what percent come voluntarily?

Percent referred ____ Percent voluntary ____ 69

38. Approximately how many of the total high school student body come to you voluntarily to discuss their plans and problems?

Almost all ___ 3 Less than half ___ 1
More than half ___ 2 Almost none ___ 0 70

39. What are the more frequent types of problems students come to you voluntarily to discuss?________________ 71☐

________________ 72☐

________________ 73☐

40. Here are three commonly held attitudes regarding the use of students' performance on standardized tests to evaluate teaching effectiveness. Place an X before the attitude which is most like your own.

___ A. A principal is thoroughly justified in using students' test
0 scores as one means of evaluating how effectively a teacher is doing his job.

___ B. A principal is never justified in using students' test scores
1 to evaluate how effectively a teacher is doing his job, but the teacher himself should use the scores for self-evaluation. 74

___ C. Students' test scores should not be used in any way to
2 evaluate teaching effectiveness.

We would be interested in any further comments you have about how teachers learn to know the students in your school and what uses they find for such knowledge.

____

________________ 75☐

____

____

____

(Use back of page for more space.)

Please seal this questionnaire in the attached envelope and mail it. Be sure you have put your name and the name of the school on the first page. This is solely to enable us correctly to group your responses with those of others. Your identity will never be revealed.

Thank you for your help.

A preliminary report on this study will probably be ready in August or September. If you would like us to send you a copy, please write below your name and the address to which you would like it sent.

____

____

____

3

Student Information Study

QUESTIONNAIRE FOR STUDENTS

Your principal is permitting you to receive
this questionnaire through the school office.

All of your answers will be kept completely confidential.

Name:____ Sex: M___ F___ | Please do not write in this margin

School:______________________________________ Date:__________

1. Place an X after the course of study you are taking:

College preparatory ___ 0

Business or commercial ___ 1 | 9

Vocational (Agriculture, shop, industrial arts, home economics, etc.) ___ 2

2. Were you a student in this school last year? Yes ___ 1 No ___ 0 | 10-11

> If you are not sure of the answers to some of the questions, do not take time to look them up or ask other students. Just make the best guess you can and go on to the next question.

UNIVERSITY OF ILLINOIS

Bureau of Educational Research

Champaign, Illinois

3. Below is a list of things your teachers could know about you as a person. Please do four things, in turn.

First: Place an X in Column 1 after each thing that practically all of your teachers know about you. DO THIS NOW.

Second: Now place an X in Column 2 after each thing that only a few of your teachers know about you.

Third: Next, place an X in Column 3 after each thing that none of your teachers know about you.

Fourth: Finally, place an X in Column 4 after each thing you think your teachers ought to know about you, regardless of whether they do now.

Please do not write in this margin

	Column 1 All of my teachers know this	Column 2 Only a few of my teachers know this	Column 3 None of my teachers know this	Column 4 My teachers ought to know this	
Performance in school subjects					0
Family and home life					1
Non-academic skills and abilities					2
Intelligence and academic ability					3
Fears and worries					4
Aesthetic and artistic abilities					5
Aspirations and ambitions					6
Interests					7
Personality and character					8
Health					9
	(12)	(13)	(14)	(15)	

Please do not write in this margin

4. Below are some ways a teacher could use to find out about the things in the list on the opposite page. Please do two things.

First: Place an X in Column 1 after those ways you think are best for a teacher to use.

Second: Place an X in Column 2 after those ways you think are very poor for a teacher to use.

Ways of finding out about students	Column 1 Best ways	Column 2 Very poor ways	
Watch the student to see what he does			16
Ask the student			17
Ask other students			18
Ask other teachers			19
Ask the student's parents			20
Ask other adults who know the student			21
Give the student a test			22
Look up the student's school records			23
	2	1	

(Use this space if you care to comment on this.)____________________

____

____

5. Do you think that your teachers spend as much time as they ought to spend in getting to know their students?

Yes ___ 1 No ___ 0 24

6. Does your school give the tests of the Illinois Statewide High School Testing Program?

Yes ___ 1 No ___ 0 Uncertain ___ 2 25

7. Does your school give any standardized tests to students? (A standardized test is one that is made up by persons outside the school, that comes in a printed booklet, and is usually given to all students.)

Yes ___ 1 No ___ 0 Uncertain ___ 2 26

Please do not write in this margin

8. Does your school give the results of any tests like these to your parents? That is, do they ever tell your parents how you did?

Yes___ No___ Uncertain___
0 2

If yes, how does the school do this?___________________ 27 ☐

____

____

9. Does your school give the results of any tests like these to you?

Yes___ No___ 28 ☐
0

If yes, how is this done?___________________

____

____

10. What occupations have you thought of as your possible life work?

First choice:___________________ 29 ☐

Second choice:___________________ 30 ☐

11. What led you to consider the type of work you listed as your first choice?

___________________ 31 ☐

___________________ 32 ☐

____

12. How much education is required for this type of work?

___________________ 33 ☐

___________________ 34 ☐

13. What does a person in this type of work actually do?

___________________ 35 ☐

___________________ 36 ☐

____

Please do not write in this margin

14. What abilities and skills must a person have who engages in this type of work?

____

____ 37☐

____ 38☐

15. Do you have the necessary skills and abilities for this type of work?

Yes___ No___
1

39☐

If your answer is no, what ones do you lack?______________________

____

____

16. How, or from whom, did you find out the information you have given in answer to Questions 12, 13, 14, and 15?

____ 40☐

____ 41☐

____

17. When you want to talk over your plans and problems with someone, to whom do you usually go?

42☐

____ 43☐

____

18. Is there anyone in school with whom you talk over your plans and problems?

Yes___ No___
0

44☐

If yes, who? Name:______________________________

45☐

Anyone else? Name:______________________________

Please do not write in this margin

19. Does your school have a guidance counselor or dean especially given the job of talking with students about their plans and problems?

Yes___ No___ Uncertain___ 46
1 0 2

If yes, have you ever gone to this counselor to talk over your plans and problems?

Yes___ No___ 47
1 0

How many of the other students go to this person to talk over their plans and problems? (Even if you are not sure, please give your best guess.)

Almost all ___ 3 Less than half ___ 1 48
More than half ___ 2 Almost none ___ 0

20. When discussing your future plans with teachers or with a counselor, do they ever mention the scores you made on standardized tests?

Frequently ___ 3 Rarely ___ 1 49
Sometimes ___ 2 Never ___ 0

21. Where did you fill out this questionnaire?

In study hall ___ 0 50☐

Some other place (specify)______________________

Please do not talk about these questions
with someone else who has received a questionnaire
until after that person has filled it out.

Put this questionnaire in the attached envelope and seal it. Take it back to the school office to be placed in the mail. If you did not fill out the questionnaire in school, then you may either mail it yourself or return it to the school office for mailing.

In any event, see that it gets in the mail without delay.

A preliminary report on this study will probably be ready in August or September. If you would like us to send you a copy, please write below your name and the address to which you would like it sent.

____

____

____

THANK YOU FOR YOUR HELP

CODING OF OPEN-ENDED QUESTIONS IN SUB-STUDY A QUESTIONNAIRES

All questionnaires in Sub-study A, when reutrned, were checked for legibility and uncodable responses before being turned over to key-punch operators for preparing IBM cards. In addition, code manuals were prepared for open-ended questions, and a staff of coders assigned the task of giving the appropriate numerals to the answers written in by our respondents. All open-ended questions were read at least by two coders.

About 20 college students were trained to code these questionnaires. Coders wrote their code choices not upon the questionnaire itself, but upon a separate sheet of paper. When a second coder coded a questionnaire already coded by a first coder, the two codes given to each question were compared. If two coders disagreed and both were convinced of their own interpretations, they called in a referee. When all coders concerned were convinced of one code as the best interpretation, this code was assigned to the response. However, if the majority interpretation still did not convince one of the coders, the answer was coded NA and punched "x." Every effort was made to encourage coders not to give in to a majority if they perceived a flaw in the interpretation of the majority.

A tally of coding errors was kept for each coder and for each open-ended questionnaire item. When two coders disagreed, and the disagreement was argued out to the satisfaction of all concerned, the coder who "lost" the argument was assigned an error. The extent of agreement between coders is shown in the table below. Each coding of a particular answer to a questionnaire iten is counted as an instance of agreement or disagreement. The table shows the agreement before a resolution of disagreement was undertaken.

Questionnaire	Range of agreement over questionnaire items	Mean agreement for entire questionnaire
Teachers	84.4 to 98.3	93.4
Principals	77.6 to 96.8	87.0
Counselors	85.2 to 96.1	91.7
Students	95.4 to 99.8	98.1

In the case of teachers and students, the figures in this table are based upon about half the questionnaires coded. The reason for this is that some coders rapidly became very reliable. After a coder's error rate had dropped below one percent, his further codings were accepted as correct with only occasional checks to make sure his error rate was remaining below one percent.

The codes used for the open-ended items in these questionnaires are given below.

TEACHERS' ITEM 3.

Code the category to which the teacher devotes the most time. If this is not ascertainable, code the first-mentioned category.

0 Math & science. (Not commercial arithmetic, etc.)
1 English, drama, speech. (Not business English, etc.)
2 Social studies, problems of democracy, geography, common learnings, psychology, sociology. (Not commercial geography, business economics, etc.)
3 Commerce, accounting, phonography, law, business economics, commercial geography, business English, consumer education.
4 Home economics, family living.
5 Industrial arts, mechanical drawing, agriculture.
6 Foreign languages.
7 Art and music.
8 Physical education.
9 Other: driver training, ROTC, special education, EMH, health.
x NA

TEACHERS', PRINCIPALS', and COUNSELORS' ITEM 9.

0 (Yes) Except we could use more; kind of needed info vague or unspecified.
1 (Yes) Except specified kind of info or test.
2 (Yes) But quality (validity, reliability) of info needs improving.
3 (No) Except for some kind of info in which files are adequate, kind specified or unspecified.
4 (No) Lacks some specified kind of info or lacks test. IF LACK MENTIONED BUT KIND OF LACK NOT SPECIFIED, CODE "x."
5 (No) Lacking in quality (validity, reliability).
6 (Yes or no) Indicated cause only.
7 (Yes) And people make good use of them OR
(No) And people don't use what we have.
8 (Yes) But people don't use them OR
(No) But people make good use of what we have.
9 Indicates general uncertainty. DO NOT USE THIS CODE IF ANY OF ABOVE ARE APPLICABLE.
x NA, or merely repeats or emphasizes "Yes" or "No:" yes, our info is unusually complete: no, our files lack quite a bit that we ought to have, etc.

TEACHERS', PRINCIPALS', and COUNSELORS' ITEMS 12, 13

0 Easire to manage, less expensive, etc., for school.
1 Easier for teabher: easy access, info in one place.
2 Gives a single reason why batter (direct, objective, valid, revealing, etc.) or rerely repeats "better" in different words. Gives no respects in comparisons or qualifications.

3 Compares with other methods in some stated respect (not merely better than)
OR gives two reasons for choice (but do not count "easier" or mere repitition as a reason)
OR gives one reason with qualification(s).

4 DK

x NA

TEACHERS', and PRINCIPALS' ITEM 61, COUNSELORS' ITEM 18.

This column is to be multiple-punched. Code all numbers that apply.

0 No.

1 Additional personnel or man-hours, or new program instituted.

2 Altered schedules: changes in conference scheduling, new methods for contacts with students or parents, rearrangments of guidance classes, expanded program without mention of added personnel or man-hours, etc. (But more man-hours or personnel devoted to these activities would be coded "1.") Any rearrangments to make work go better: made files more usable, etc.

3 Training: in-service training, workshops, teachers taking summer or extension courses, hiring more highly-trained people, etc.

4 Tests: added, improved, given to more students, etc.

5 Attitudes or within-conference practices changed: doing better counseling

6 Yes, unspecified. No write-in, or merely says "yes" in different words; lots, things much better, etc.

7 DK

8 Reductions in any of the above: fewer man-hours in personnel, changes in scheduling, reducing amount of counseling, etc.

x NA

TEACHERS' ITEM 19 and COUNSELORS' ITEM 21.

0 No, no write-in.

1 Yes, no write-in or write-in not otherwise codable.

2 No, elaborated: emphatic, repeats, or gives cause of administration's disagreement: they are economy-minded, they think only intelligence tests are any good, etc.

3 Yes, elaborated: emphatic, repeats, or gives cause of administration's agreement: they are up-to-date, they would give these new tests if they had the money, good people in charge, etc.

4 Some members of administration would and some would not.

5 In some ways yes and in some no, ways unspecified.

6 In some ways yes and in some no, ways specified.

7 DK or uncertain.

x NA

TEACHERS' ITEM 21, PRINCIPALS' ITEM 19, and COUNSELORS' ITEM 22.

0 Merely available: any may look them up who wish, etc.

1 Available from guidance office or counselor.

2 Results sent to parents or students through teacher. Compare Code 3.

3 Results sent to teacher. Compare Codes 2 and 4.

4 Copies of results sent to teacher for him to keep. USE THIS CODE INSTEAD OF "1" OR "2" IF THERE IS SPECIFIC MENTION OF MIMEO COPIES, KEEPING COPIES, ETC.
5 Faculty meetings or conferences held to discuss results. USE THIS CODE IF APPLICABLE INSTEAD OF 0, 1, 2, OR 3.
6 Don't get results
7 DK
x NA

TEACHERS' ITEMS 31 & 33, PRINCIPALS' ITEMS 29 & 31, COUNSELORS' ITEMS 33 & 35, and STUDENTS' ITEMS 8 & 9

0 No.
1 Yes, no write-in OR yes but DK how or when.
2 Uncertain.
3 Availability: R indicates only that anyone who wishes may have results. E.g., if requested, any who are interested, etc.
4 Structure: R indicates that school exercises some control or discretion over tests or persons. R may mantion who gets tests, who gives results, what tests are given, how test results are transmitted, etc. May mention conferences, written results, whether parents or students can understand results, etc.
5 Other. E.g., form of score, why tests are given, etc.
x NA

COUNSELORS' ITEMS 16 & 39.

Code problems in order listed by R unless R gives indication that one of the problems is most important.

0 Occupational Choice: What occupational field should student work toward or enter; What is student best suited for; what do student's abilities suit him for; etc. (NOT "getting a job")
1 Academic choice: Refers to high school work only. What curriculum, courses, etc., student should take.
2 Academic progress: Anything to do with student's achievement or school work; academic problems; interest; motivation; failure; reading deficiency; student's abilities. Or, R says "educational problems" with no evidence thay they chould be coded 5.
3 Discipline: Any mention of teacher-student adjustment difficulties or problems; behavior problems; conflicts with teacher; problems of obeying school rules; absenteeism; etc.
4 Personal-Social: Any type of home problem, personal problem, social adjustment problem EXCEPT those described in code 3.
5 College: Requests for information about scholarships, needed student abilities, or anything about student in relation to college attendance and college entrance.
6 Tests, test scores or results, I.Q., etc.
7 Jobs employment, part-time or summer work.

8 Other Problems such as Financial, Health, Religion, "leaving school", etc. To be coded here, problem must be specific, but not codable as 0-7. Vague problems are coded 9.

9 Vague and Gerneal: Any mention of "problems", "plans", "attitudes", etc. with no indication as to their nature. All general statements such as "How can we help this student", "What is wrong with this student", "Need more backgroung of all types on students".

x NA

STUDENTS' ITEM 4.

If any row is left un-marked, code it y, unless it is clearly discussed in the write-in.

If any row is marked in both columns, delete marks in red, and code it y - unless a write-in clearly indicated R's choice.

If the entire table is left blank code **every row x**.

For write-ins.

Codes 0-1-4-6-8 used for rows checked best
Codes 2-3-5-7-9 used for rows checked poor

0 Best is checked. Write-in discusses all ways in general, or a group of ways. No specific way is mentioned and no reasons are given for R's choice.
3 Same as 0 except ways are checked "poor"
1 Best is checked and write-in does not refer to way checked
2 Same as 1 except way is checked "poor"
4 Best is checked and write-in gives a specific reason why R. feels as he does.
5 Same as 4 except way is checked "poor"
6 Best is checked but write-in discusses why way is poor, or qualifies way to indicate that it is not always "best".
7 Same as 6 except was is checked "poor" and discussed as "good".
8 Best is checked and write-in singles out one or more specific ways for discussion, but R. gives no reason for his feelings.
9 Same as 8 except way is checked "poor".

General rules:

1. If two or more quite different interpretations can be placed on a write-in, and if both pairs of coders can see these interpretations, code 0 or 3.
2. Do not draw inferences regarding R's feelings about ways not specifically discussed.

STUDENTS' ITEM 10.

0: Professional (Material)
  00: Scientist: Physical, Biological, any type of research such as "genetic research."
  01: Mathematician: Statistician.
  02: Engineer: Any branch such as mechanical, civil, "rocket," etc.
  03: Accountant: CPA, auditor.
  04: Pharmacist, Vternarian, Taxidermist.
  05: Author, editor, journalist, reporter, newspaperman.

06: Architect, Naval Architect.
07: Artist, Musician, Sculptor, dancing teacher and piano teacher. Does not include commercial artist, actor, dancer, singer: unless R specifies a high professional level such as "Shakespearean actor," "dramatist."
08: Communications: Sportscaster, announcer, radio broadcaster, TV disk-jockey, etc.
09: Vague terms as "something in medicine," "something in research."

01: Professional (Social & Managerial)

10: Physician, Dentist, Nurse. Includes all modifiers such as "space doctor," Physical Therapist.
11: Lawyer, judge, attorney.
12: Social Scientist: social worker such as "youth director," camp director, rec. leader, psychologist, psychiatrist.
13: Teacher, Professor, Librarian.
14: Politician, diplomat, foreign relations worker, language interpretor, intelligence service.
15: Clergy or any religious work such as missionary, Christian Education worker, etc.
16: Manager, executive, administrator, industrial consultant.
17: Banker.
18: Home Economist.
19: Vague terms such in "In government," "Helping people," "Working with people," etc.

02: Semi-Professional

20: General contractor, builder.
21: Leadership position such as "ship captain," "R. R. conductor," "mill foreman," airforce officer, etc.
22: Explorer, aviator, space pilot, racing driver.
23: Athlete or coach, not high school, (high school code 13) of any type such as "wrestling coach," professional sports.
24: Advertising, buyer, Public Relations.
25: Decorator, designer, commercial artist, photographer
26: Dancer, singer, actor.
27: Surveyor, draftsman.
28: Lab Technician, undertaker, optometry, dental assistant.
29: Vague terms such as "business" or "business man" or "insurance."

03: Clerical and Sales

30: Salesman, auctioneer, real estate (not sales clerk).
31: Secretary, stenographer, bookkeeper, office worker of any type.
32: Model, guide, airlaine stewardess, receptionist.
33: Any type of clerk such as "sales," "store," "stock," etc.
39: Vague.

4 Service Occupations

40: Protection: Armed Services, unspecified as to position, police, fire, coast guard, etc.
41: Personal: Beautician, cosmotologist, barber, chef, baker seamstress, dietician, waiter, bartender, nurses aid, waitress.
42: Domestic: Maid, janitor, doorman, bell-boy.
43: Communication: Telegraph or telephone operator, mail carrier.
44: Repairman: Service-man, refrigerators, etc.
49: Vague.

5 Agriculture

50: Farmer, agricultural worker, breeder, etc.
51: Any selected branch such as horticulture, irrigation, pest control, nurseryman, agronomy.
52: Any outdoor work such as forestry, lumbering, fishing, trapping, ranching, wild-life, game warden.
53: Extension work in agriculture.
54: Vague terms such as something in agriculture."

6 Skilled

60: Electrician, radio electronics, and electrical worker, IBM machines.
61: Mechanic, tool and die maker, machinist, machine designer.
62; Carpenter, plumber, upholsterer, steam fitter, water well driller.
63: Printer.
69: Vague. (construction)

70 Semi-skilled - factory worker, machine operator.

71: Meat-cutter; butcher.

79; Vague - Public Works

80: Unskilled - truck driver, "to work in a stickyard."

90: Housewife

xx: NA

STUDENTS' ITEM 11.

Examine Question 11 for source of information or influence concerning occupational choice. Code source indicated as most important. If you connot decide, code first mentioned source.

1 Self only: May be vague and general, or detailed and analytical. There is no mention, or only passing mention of other persons, or others are mentioned as an after-thought. If school is mentioned it is vague and general - "I like the courses I took."

2 Family: My father is a doctor; I talked with my uncle; etc.
3 Friends: A bunch of us is going into the Army; etc.
4 School: Specific Vocational class such as "careers" or "occupations."
5 School: Specifically mentions Teacher, Principal or Counselor.
6 Specific person not in school: Scoutmaster, minister.
7 Tests: Specific reference to tests or test scores.
8 Mess media: Television, movies, reading, pamphlets, books, magazines, etc.
x NA

Examine Question 11 for R's reasoning regarding his choice, code the category receiving most emphasis or other wise the first-mentioned.

0 DK
1 General interest, no reasons: "I like it" "I have always been interested."
2 Direct or vicarious experiences: "I have a job like this." "I've visited (hospitals) and like it." "I've talked with people who do it." "I read up on it." (NOT "happened to read about it").
3 Analyzes preferences in relation to job: "I have a curiousity about the things about me." "I can't stand working inside," or "I like working outside," or "I like working with children," etc. "I like to see women well-groomed." "This is the cheapest way to travel and see the world."
4 Analyzes own abilities: "After working as a ____ I figured I was smart enough to do something better." Any reference to test scores or tests. "My achievement in this is high."
x NA

STUDENTS' ITEM 12.

Examine Question 12 for precision and specificity of information

0 Specifies both an exact number of years and place (college, grade school, etc.) of schooling.
1 States more than one figure of "some," and specifies place of schooling.
2 Does not specify type of institution but gives some precision for time.
3 Vague. Does not specigy either time or kind of training. "Go to some sort of night school." "Lots." "Quite a bit." "It depends on the job."
4 DK
x NA

STUDENTS' ITEM 13.

Examine question 13 for R's perception of the demands of the job. If two codes are applicable, always give the lower number (e.g., if 1 and 2 are applicable, code 1).

0: Specific, acts with localizable beginnings and endings.
"He is in charge of building roads and bridges."
"She types, takes dictation, answers the phone."
"He produces crops and raises animals."

1: Values: idealistic, grandoise, uses cliches to describe job.
"Help the sick feel needed and wanted." "Educate the young for the future." "Molds children into future citizens." "Makes a lot of maney." "Gets ahead fast."

2: More detailed than 3, but does not have a localizable beginning and ending.
Engineer: "Does construction and supervision."
Airline Hostess: "Travel, get to know people."
Nuclear Physics: "Work with neclear power in industry."

3: Repeats the job using practically identical words.
Supervisor: "He supervises."
Teacher: "Teadhes students."
Store-owner: "He runs the store."
Electrician: "Does electrical work."

4: "It depends on ______." (no details)

x NA

STUDENTS' ITEMS 14 & 15.

Examine question 14 for kind of abilities or skills named.

Coding rules

1. If two similar things are mentioned code in 37 and code 38 as x
2. If two different things are mentioned code first named in 37 and second named in 38.
3. If more than two things are mentioned and all are different, code the first two named unless one happens to be a 9. Do not use code 9 if any other code is possible.
4. If more than two things are mentioned and some of them are similar, code the most frequent in 37 and the next most frequent in 38.

2: Knowledge or any type of skill or practice generally learned in school. Examples:

a) good speech (e.g. grammatical speech)
b) legibile handwriting
c) a good speaker who can express his ideas
d) command of the English language
e) any needed course or subject area

Code "education," "knowledge," and other general terms as 9.

3: Physical qualities and characteristics. Examples:

a) health, strength, vigor, etc.
b) neuromuscular coordination (e.g. work well with hands, dance)
c) voice quality or tone; singing ability
d) anything having to do with the senses (e.g. hearing, vision, etc.)

4: Mental qualities and characteristics. Examples:
    a) any specific mental ability such as "scientific," "academic," "mathematical," etc.
    b) any general quality such as "a good mind," "good intelligence," "high I.Q," "curiosity," "imagination," etc.
    c) any colloquial phrase which implies ability such as he must have a "knack" for ____ or he must be "good" in ____.
    d) artistic ability--writing a musical, etc.

5: Personal qualities of being or behaving. Examples:
    a) Any character trait such as loyalty, trustworthiness, friendliness, etc. Note: code open mind as 5 not as 4.
    b) Any personality characteristic such as ability to get along with people, pleasing personality, ability to speak freely to people and make them feel comfortable, etc.
    c) Any type of personal attitude or value such as the willingness to work hard, the desire to help people, the ability to take orders and follow them.

6: Repeats answer given to question 13 (Col. 35-36).

8: Dk or "uncertain"

9: Vague, general comments. Examples:
    a) Any expression of interest or liking such as "he should really want to do it," "he should like the work," "he should like to do math problems," "he should have an interest in the work." Note: code "interest in people" as 5 not 9.
    b) Any vague mention of knowledge such as "education," "a vast knowledge of many fields."
    c) Any vague mention of training such as "he must be professionally trained," "he must be able to meet whatever situations arise."

x: NA

STUDENTS' ITEM 16.

If only one source is mentioned code it in Col. 40, and code Col. 41 as x.

If two sources are mentioned code the first (or most important--as the case might be) in Col. 40 and the second in Col. 41.

If three or more sources are mentioned do one of the following things:

Code Col. 40 with most important source--if this is determinable--and code Col. 41 as 9.

OR

Code Col. 40 with the most specific source--if this is determinable--and code Col. 41 as 9.

OR

If R gives 4 or more categories, code Col. 40 as 9 and Col. 41 as x.

0 Self: "I learned it from being in school." "From my own experience." "in courses I took in school."

1 Family: Father, uncle, parents, family, father and his friends, etc.

2 Friends: specified or general.

3 Teachers: unspecified

4	Specific teacher mentioned: Phys. Ed. teacher, R names a teacher.
5	Guidance counselor, etc.
6	Specified others: college representatives, talking with or asking people in the field, private voice teacher, a professional draftsman, etc.
7	Specific club: FTA, Youth group, FHA, Boy Scouts, etc.
8	Mass media or reading.
9	Multiple sources
x	NA or 9 in Col. 40.

STUDENTS' ITEM 17.

If only one person is mentioned, code Col 43 as x.

If two persons are mentioned, code the first (or the one to whom highest importance is given) in Col. 42 and the other in Col. 43.

If three or more persons are mentioned code the most important (or the first) in Col. 42 and code Col. 43 as 9.

0	No one, or self.
1	Family.
2	Friends.
3	Principal or administrator.
4	Counselor, dean, etc.
5	Teacher.
6	Other adult.
7	Person not identifiable as any of the above.
9	Multiple sources
x	NA

STUDENTS' ITEM 18.

If a teacher, counselor, principal, or school administrator is mentioned, ignore all other names and code this person in Col. 44. If more than one such person is mentioned, code the first named.

0	No.
1	Friend. Code here any person whose name is not preceded by a title such as Miss, Mrs., Dr., etc. Also, code here all non-adult relatives such as sister, cousin, etc.
2	Principal or administrator with or without assigned counseling duties.
3	Counselor, dean, etc. Must be full time.
4	Teacher in area of R's first occupational choice. NOTICE: If this teacher also has counseling duties code Col. 44 as 8. If R's first occupational choice is "teacher" or "teaching" code Col. 44 as 5 unless R specifies the teacher's teaching field. An example of code 5 would be: R's choice is Phys. Ed. Teacher and R names "my Phys. Ed. Teacher."
5	Teacher in area other than R's first occupational choice. Use code 8 if teacher also has counseling duties or administrative duties.
6	Adult not in school.
7	Unidentifiable adult.
8	Subject teacher with some counseling or administrative duties.

9	Yes, no write-in or write-in not codable; or "my advisor" "my home room teacher" etc., with no evidence whether person is a teacher or counselor.

Code next the subject taught by teacher named in Col. 44. Code x in Col. 45 if Col. 44 is coded anything except 4, 5, or 8.

0	Math & science. (Not commercial arithmetic, etc.)
1	English, drama, speech. (Not business English, etc.)
2	Social studies, problems of democracy, geopraphy, common learnings, psychology, sociology. (Not commercial geography, business economics, etc.
3	Commerce, accounting, phonography, law, business economics, commercial geography, business English, consumer education.
4	Home economics, family living.
5	Industrial arts, machanical drawing, agriculture.
6	Foreign languages.
7	Art and music.
8	Physical education.
9	Other driver training, ROTC, special education, EMH, health.
x	Col. 44 coded other than 4, 5, or 8.

Appendix 4:

First report to participants

STUDENT INFORMATION STUDY

Bureau of Educational Research
University of Illinois

1007 So. Wright St.
Champaign, Illinois

September, 1959

Dear Participant:

This is a report of the first findings--"hot off the IBM machine" --of the questionnaire study in which you participated last spring.

Do you think that your teachers spend as much time as they ought to spend in getting to know their students? This question was asked of about 1100 Juniors randomly sampled from high schools of over 500 students in size in the state of Illinois. Three quarters of these students answered no. As will appear later in this report, the opinion of school staff members is in the same direction.

Girls and boys differed somewhat in regard to the question just above. Sixty-nine percent of the boys answered no, while seventy-nine percent of the girls gave that answer.

Before going further, we should point out that all of the figures in this report are averages over all participants. The figures are fairly good estimates for the state as a whole. However, the proportions within any particular school could of course be quite different from those in this report.

These students were also asked to whom they usually went when they wanted to talk over their plans and problems with someone. In answer to this, only nine percent mentioned someone on the school staff. Sixty-eight percent named members of their families, and seventeen percent mentioned friends.

However, students were also asked, "Is there anyone in school with whom you talk over your plans and problems?" In answer to this, thirty percent mentioned counselors and another twelve percent mentioned teachers.

Students were asked what occupations they had thought about as their life work, and they were asked various questions about these occupations. When asked where they found out about their chosen occupation, twenty-three percent mentioned sources in the school.

One question about occupations was, "What abilities and skills must a person have who engages in this type of work?" In answer to this, twenty-four percent of the boys thought first to mention mental qualities required by the work, while this seemed of first importance only to eight percent of the girls. On the other hand, forty-seven percent of the girls made first mention of personal qualities (e.g., loyalty, friendliness, ability to get along with others), while these qualities were mentioned by only twenty-one percent of the boys.

At a later date we will have tabulations showing the relation between these answers and the kinds of occupations chosen by the students.

When the students were asked what led them to consider the occupations they chose, about half mentioned specific features they found attractive about the job. Only about eight percent justified their choices by citing required abilities which they possessed.

When asked for information about the training requirements for their chosen occupations, more than four-fifths of the girls and boys were partially or completely exact in their answers. This seems to indicate that the occupational choices they wrote down represented considered opinions rather than casual guesses.

Tabulations providing more detailed information about these findings are shown below.

"When you want to talk over your plans and problems with someone, to whom do you usually go?" Percent of Junior students giving answers of the type indicated in the column headings.

	No-one or self	Family	Friends	Member of school staff	Other	Total
Percent of girls:	2	68	21	7	2	100
Percent of boys:	7	68	12	11	2	100

"Is there anyone in school with whom you talk over your plans and problems?"

	No-one	Friend	Counselor	Teacher	Other	Total
Percent of girls:	26	29	30	12	3	100
Percent of boys:	30	23	31	12	5	100

"How, or from whom, did you find out the information you have given in answer to the questions about your occupational choice?"

	Self	Family and Friends	In School	Mass Media	Other	Total
Percent of girls:	20	13	25	25	17	100
Percent of boys:	24	18	20	22	17	100

"What led you to consider the type of work you listed as your first choice?"

	General interest	Direct experience with the work	Specific features of the work	Possession of relevant abilities	Don't know	Total
Percent of girls:	19	20	53	8	0	100
Percent of boys:	19	28	43	9	1	100

"How much education is required for this type of work (your first occupational choice)?"

	Gave exact answer	Exact in some respect	Vague	Don't know	Total
Percent of girls:	49	39	10	2	100
Percent of boys:	48	32	15	4	100

About 2700 high school teachers (in Illinois schools having 100 or more students) participated in the study. Among other things, they were asked, "Apart from the actual time you spend in the classroom, about how often do you take time out to gather information about students?" The mean of the teachers' answers to this question came out at about twelve hours per semester. Principals, in turn, were asked to estimate how often their teachers did this. Their mean estimate was about nine hours per semester. Average figures of this sort do not necessarily bring us closer to knowing what the most desirable figures ought to be. This is especially true when we consider that the figures given by individual teachers were often very different from the mean.

Although teachers and principals differed as to how often teachers actually take time to seek information about students, they agreed on how often teachers ought to do so. The mean figure for this amount of time was about 20 hours per semester. On the average, then, students, teachers, and principals all agree that teachers should spend more time than they do in learning to know their students.

Some teachers, of course, report more time spent in obtaining information about their students than do others. In general, teachers who have had more courses in the technicalities of testing report more time spent in seeking information about their students, and teachers long in the profession also tend to report slightly more time spent. Among teachers with more than 25 years' experience who have had two or more courses in testing, only 27% report less than an hour per week spent in seeking information, while 73% report one hour per week or more. We might note here that the mean figure for these teachers would come nearer to the suggested 20 hours per semester.

One way a teacher can obtain information about students is to ask the counselor. About 230 counselors were asked how many teachers came to them for information of this kind, and how often they came. In general, teachers seem to make less use of the counselor in this way during the counselor's first couple of years at the school than they do in later years. The percentages of counselors giving the various answers are tabulated below.

"In the course of a year, approximately how many of the teachers take time out to come to you and request information about their students?"

Years counselor has been at school	Percent of counselors answering: Less than half	More than half	Almost all	Total
1-2	60	30	10	100
3-5	31	45	24	100
6-11	29	33	38	100
12-41	37	39	24	100

"Of the teachers who do come to you for information, approximately how often do most of them come?"

Years counselor has been at school	Percent of counselors answering: Once per semester or less	Twice per semester	More than twice per semester	Total
1-2	33	35	32	100
3-5	17	38	45	100
6-11	25	27	48	100
12-41	32	23	45	100

The two tables above may possibly support the conclusion that teachers must have a year or two to get to know the counselor before they go to him for advice and information. Alternatively, counselors may change the focus of their work after the first couple of years.

An important factor in the ease with which a teacher can obtain information about students is the adequacy of the school files. Principals, counselors, and teachers were asked, "Do you feel that the information which your school obtains and files about students is sufficient?" Percentages saying yes to this question are: principals, 59%; counselors, 62%; and teachers, 66%. At least two points are interesting here: (1) there seems to be fairly good agreement among teachers, counselors, and principals, and (2) about 35 to 40 percent of the respondents feel that their files are less than sufficient.

Persons in larger schools, persons with more experience, and those with more courses in testing are all somewhat more likely to feel that the information in the school files is sufficient. Obviously, these persons may be located in schools where the files are indeed more complete and reliable. However, we also find that persons who have been at their schools longer are also more likely to have answered yes to this question. This is true of principals, counselors, and teachers alike.

Principals, counselors, and teachers were asked how often they discussed test results with students and their parents. Some differences in these three groups were found, as shown in the tables below.

"In talking with students about their plans and problems, do you discuss test results with them?"

	Never	Rarely	Sometimes	Frequently	Total
Percent of counselors:	0	2	24	75	100
Percent of principals:	1	4	37	58	100
Percent of teachers:	9	23	51	17	100

"In talking with parents about their children, do you discuss test results with them?"

	Never	Rarely	Sometimes	Frequently	Total
Percent of counselors:	0	3	43	54	100
Percent of principals:	1	10	48	41	100
Percent of teachers:	16	33	40	11	100

From the tables just above, it can be seen that counselors report most frequent discussions of test results with students and their parents, and teachers report least. Answers to other questions indicate that persons longer in the profession and persons with more courses in testing tend to discuss test results more often with students and parents. One factor underlying these differences might be the acquaintance of the person with the testing program of the school. In the two tables below, we compare the answers of teachers and principals to two factual questions about the distribution of test results.

"Does your school ever give test results to parents?"

	No	Yes	Uncertain	Total
Percent of principals:	16	84	0	100
Percent of teachers:	16	42	42	100

"Does your school ever give test results to students?"

	No	Yes	Uncertain	Total
Percent of principals:	10	90	0	100
Percent of teachers:	15	58	27	100

In order to make a rough estimate of the amount of confidence school people put in testing, one part of the questionnaire presented three statements of opinion about test scores, and asked the reader to indicate which statement came closest to his own opinion:

A. "A test score is a valuable piece of information which answers many of the questions I have about my students."

B. "A test score is a valuable piece of information useful in raising important questions in my mind about my students."

C. "A test score is an interesting piece of technical information but possesses little or no value for the on-going activities of the classroom."

The percent of persons indicating a preference for each of these statements is shown below.

	A	B	C	Total
Percent of principals:	49	50	1	100
Percent of counselors:	37	62	1	100
Percent of teachers:	41	53	6	100

Two points are worth remarking in this table. First, counselors, who are often specially trained in handling information about the characteristics of students and their problems, more often prefer answer B than do the other two groups. Second, there is a noticeable tendency for a few teachers to prefer Answer C.

We also tabulated these answers according to the number of courses in testing which the respondent had completed. There was a small but reliable tendency for persons with more courses in testing to prefer Answer A rather than Answer B. This was true of principals, counselors, and teachers alike.

You might like to know how many of your colleagues in the state answered the questionnaire. These figures are in the table below:

Sent to:	Number sent	Percent returned filled out	Number reached*	Percent returned from those reached
Schools	591	94		
Principals	591	89	556	94
Counselors	261	88	247	93
Teachers	3501	78	3286	83
Students	1190	92	1160	94

*"Number reached" means the number of persons to whom questionnaires were sent, counting only those schools where the principal agreed to distribute the questionnaires. This occurred in 556 schools.

This preliminary report has presented only a few of the findings which we will be able to report from this questionnaire study after further analysis of the results. We wanted to get a report to you as soon as possible, and we therefore chose results which were quick to compute and brief to present.

Our next report will be ready sometime in the spring. If you would like a copy, please send a self-addressed 9 x 12 envelope to Dr. J. T. Hastings, Bureau of Educational Research, 1007 So. Wright Street, Champaign, Illinois. You need not put postage on this envelope.

And if you would care to send us comments on this first report, we would be very pleased to have them.

PART III

SUB-STUDY B

Appendix 5:

Questionnaire
for teachers

THIS QUESTIONNAIRE
was the same as the
"Questionnaire for
Teachers" found in
Appendix 3.

Appendix 6:

Test of Knowledge and Interpretation of Tests

KNOWLEDGE AND INTERPRETATION OF TESTS

Name______________________________ Date__________

School____

University of Illinois
Bureau of Educational Research
Urbana, Illinois

ABOUT THIS "TEST"

The attached pack of mimeographed sheets looks like a test. And in one way it is. But our purpose in asking you to try your hand at it is quite different from the purposes with which many tests are given.

We are not trying to measure your ability, nor your competence.

All of us know that knowledge needs to be used if it is to be kept fresh in memory and easy to recall. No doubt you will find some items in this "test" which you could brush up on easily because of training or experience you have had in the past. Without such brushing up, your answers will not represent your actual ability or familiarity with this field. Rather, the test will be an index of the kinds of things which "stick in the mind" of practicing teachers.

And this is exactly what we want to ascertain. We want to get an indication of the kinds of technical information about testing which are most salient--which stay "at the finger tips"-- of working teachers.

For this reason, please do not look up any answers. Please do not consult with others about the answers. Just go through and mark in each case what seems to you the best answer, without dwelling very long on any one item. This will give us the index we are looking for.

You will probably be curious to know how many questions you get right. We will have this information when we meet with you next spring, and will discuss your score with you if you are interested. This information, however, will be given to no-one but you. The results will be used only for research purposes.

We find that most people require about an hour for this test. Please go through it alone, in a relatively quiet place, and--if at all possible--at one sitting.

Read each question carefully and then circle the answer you think is correct. Mark an answer for every question, even though you are not certain of your answer. Do not mark more than one answer for any question.

When you have completed the test enclose it in the attached envelope and mail it to us. Be sure your name and school appear on the cover page.

Thank you for your cooperation.

Directions: Place a circle around the letter which indicates the correct answer. Mark only one answer for each question. If you are not sure of the correct answer to a question, make the best guess you can and go on to the next one.

1. In which way are informal teacher-made tests superior to standardized tests?

   A - They are more reliable for evaluating differences among very good and very poor students.

   B - They provide more valid measures of the teacher's specific objectives.

   C - They provide a better measure of the students' grasp of important facts and principles.

   D - They are simpler to administer and score.

2. Which of the following is the wisest attitude a teacher can have with regard to the use of test results?

   A - They are of limited value because they have the effect of causing the teacher to "categorize" students.

   B - They provide important data on which to base further study.

   C - They can, when adequately interpreted, provide sufficient information for choosing a career.

   D - They are too unreliable to be of value except for drawing conclusions about groups of individuals.

3. In counseling junior high school students a teacher should be most cautious in her interpretation of the information she obtains from

   A - Vocational interest tests.

   B - Study skills tests.

   C - Reading comprehension tests.

   D - Performance tests.

4. A student scored at the 75th percentile on a standardized achievement test. This means that

   A - 75 percent of the norm group scored lower than he did.

   B - 75 percent of the norm group scored higher than he did.

   C - he answered 75 percent of the questions correctly.

   D - he is in the upper 25 percent of his own high school class.

5. Because no standardized test possesses perfect reliability it is essential that the teacher regard the score which a student obtains as

   A - having little meaning unless it is very high or very low.

   B - indicating a point in the range near which the student's true score probably falls.

   C - indicating only that the student has either more, or less, ability than the average individual in the norming group.

   D - providing information about the student which can be used only by a thoroughly trained guidance counselor.

6. A teacher has made up an objective test covering the important concepts in a recently completed unit of subject matter. Which type of information that he could obtain from the test results would be most helpful in showing him what concepts his students had mastered and what ones they had not?

   A - The percentile rank of each student.

   B - The range of scores for the class.

   C - The mean and standard deviation of the test.

   D - The number of students who failed each question.

7. A comparison based upon the results of the recently administered Iowa Silent Reading Test showed that Miss Brown's eighth grade English class at Northside Junior High had a median grade placement of 7.4, whereas Miss Jones' eighth grade English class at Southside Junior High had a median grade placement of 8.4. This difference most probably indicates that

   A - Miss Brown devoted less time to individual instruction than Miss Jones.

   B - Miss Jones devoted more time to instruction in the areas measured by the test.

   C - a wide range of ability exists among the Southside pupils.

   D - A difference in general academic ability exists between Northside and Southside pupils.

8. How can a teacher most easily evaluate the reliability of the test questions he devises for his students?

   A - Make a scatter-plot of the scores.

   B - Make frequency distributions of high and low scoring students.

   C - Compare the percent of high and low scoring students that answered each question correctly.

   D - Correlate each question with the total test score.

9. John tells his mother that he made a score of 68 on his science test. Which type of information would best help his mother to understand the meaning of his score in terms of his achievement in science?

   A - The test consisted of 90 questions.

   B - Half of the class failed the test.

   C - The mean score for the class was 65.

   D - The highest score in the class was 83.

10. On a group intelligence test, which pupil would be most apt to receive an I.Q. that is much lower than his true ability?

   A - Mary, whose parents speak only Spanish.

   B - John, who failed in all of his school subjects last year.

   C - Jane, who comes from a lower-middle-class home.

   D - Bill, who spends all of his time in athletics instead of on his school work.

11. If a teacher wishes to compare the performance of her students with the performance of other students of similar age and experience, it is necessary for her to administer

    A - an objective test.

    B - an achievement test.

    C - a standardized test.

    D - a performance test.

12. A teacher has a group of students, all of whom have I.Q.'s of 120 and above. With a group of this kind the teacher will invariably find that.

    A - the classroom atmosphere will be highly competitive.

    B - no student will fall below the norm on tests.

    C - differences in aptitudes and interests will cause the students to vary considerably in achievement.

    D - the group will be no different from an average class because of the unreliability involved in measuring intelligence.

13. A student's class rank in high school is often a better predictor of college success than his I.Q. score because it provides an indirect measure of the student's

    A - motivation.

    B - interest.

    C - achievement.

    D - aptitudes.

14. In school X all ninth graders are routinely given a group intelligence test, and those with I.Q.'s of 90 and below are placed in a special class for the mentally retarder. Before any pupil is so placed, however, the following four steps are taken. Which of these should come first?

    A - The pupil is interviewed by the school counselor.

    B - The pupil is given an individual intelligence test.

    C - The guidance counselor confers with the pupil's parents.

    D - The guidance counselor confers with the pupil's teachers.

15. If a test has a mean of 50 and a standard deviation of 10, approximately two-thirds of the group received scores between

A - 40 and 50.

B - 40 and 60.

C - 50 and 60.

D - 30 and 70.

16. Teachers should motivate students to make the best scores they possibly can on all of the following types of tests EXCEPT

A - Aptitude tests.

B - Diagnostic tests.

C - Personality tests.

D - Readiness tests.

17. A tenth grade teacher observes the following data on a student's cumulative record:

4th grade: Henmon-Nelson I.Q.: 136
7th grade: Kuhlmann-Anderson I.Q.: 113
9th grade: Terman-McNemar I.Q.: 99

Which hypothesis that the teacher might formulate regarding the cause of this progressive decline is LEAST tenable?

A - The tests were administered and scored by teachers who lacked guidance training.

B - The tests were unreliable.

C - The school has failed to provide for this student's needs.

D - The student is in severe conflict with his parents.

18. During the first week of school a teacher gave the same reading comprehension test to both of her eleventh grade English classes. In her morning class the students had a mean of 73 and a standard deviation of 12. In her afternoon class the students had a mean of 73 and a standard deviation of 26. What do these results imply with regard to her planning for these two classes?

    A - The difficulty range of reading materials should be greater for the afternoon class.

    B - The variety of reading materials should be greater for the afternoon class.

    C - The textbook used in the afternoon class should be of simpler and easier format.

    D - The work assignments given the afternoon class should be less extensive.

19. A teacher is in the habit of giving his geometry students a weekly test. In the middle of the school year, six of the students in his class transfer to another school. For the remaining students, which of the following will probably show the greatest amount of change?

    A - The raw scores they make on the weekly tests.

    B - Their rank in class as determined by the weekly tests.

    C - Their average weekly test scores.

    D - The range of their weekly test scores.

20. Both John and Arthur plan to study medicine in college. On a vocational interest test John scored at the 90th percentile for "physician" and Arthur scored at the 55th percentile. What do these results imply?

    A - Both boys have sufficient interest in medicine to make its study worthwhile for them.

    B - Because John's interest is almost twice as strong as Arthur's, John will become a better physician.

    C - Since Arthur has only an average amount of interest in medicine he will probably dislike many of his courses.

    D - John's interests are almost identical with the interests of successful physicians, whereas Arthur's are not.

Questions 21 through 23 are based on the following information about William Jones. Read the questions __first__, and then use these data to decide upon your answers.

Age: 17
Grade: Eleventh
Curriculum: College Preparatory
High School Gr. Av.: C-
I.Q.: 124 (obtained in tenth grade)
Future Plans: Engineering College
Father's Occupation: Garage Mechanic
Mother's Occupation: Housewife
Extracurr. Act.: Band, Orchestra, Glee Club
Health Record: Good except for 30/50 vision in both eyes corrected by glasses to 20/30.

__Kuder Preference Record__*

__Area__	__Percentile__
Mechanical	10
Computational	34
Scientific	40
Persuasive	58
Artistic	63
Literary	80
Musical	85
Social Serv.	10
Clerical	28

*A widely used interest test.

21. What appears to be the major discrepancy in William's Record?

    A - That between his I.Q. and his high school curriculum course.

    B - That between his future plans and his Kuder Profile.

    C - That between his Kuder Profile and his extra-curricular activities.

    D - That between his father's occupation and his future plans.

22. What is the most probable cause of William's poor school achievement?

    A - Poor motivation due to lack of interest.

    B - Excessive time spent in extra-curricular activities.

    C - Poor study habits due to defective vision.

    D - Poor home background.

23. Although all of the following questions are important, William's record indicates that it is most important for his teacher to investigate whether

    A - he is popular with his classmates.

    B - a conflict exists between him and his parents regarding his vocational career.

    C - the college preparatory curriculum is too difficult for him.

    D - his extra-curricular schedule is too heavy.

24. In contrast to a power test, a speed test is one in which

    A - No pupil has time to answer all of the questions.

    B - all questions are very short and factual in nature.

    C - pupils race with each other to see who can obtain the highest score.

    D - pupils are not permitted to guess.

25. Many of today's standardized tests are superior to those constructed ten to twenty years ago. Of the following changes which have been made, which one is of greatest significance educationally?

    A - Human judgement has been almost entirely eliminated, making the tests completely objective.

    B - The scores provide more information about students which a teacher can accept at face value.

    C - More emphasis is placed on the ability to apply principles and less on the ability to recall facts.

    D - The test manual reports all significant information regarding reliability, validity, and norming.

26. Upon receiving intelligence test scores for her class a teacher is surprised to learn that a pupil she has always considered as "average" has an I.Q. of 84. Of the following, what is her most appropriate immediate course of action?

    A - Check the pupil's cumulative record for the results of previously administered achievement and intelligence tests.

    B - Evaluate her attitude toward the pupil's performance in class to learn whether she has been grading him too leniently.

    C - Discuss the test results with the pupil to learn whether he was ill on the day of the test.

    D - Recognize that the pupil is achieving far beyond his capacity and encourage him to continue.

27. Which of the following abilities is it most difficult to measure using an objective paper-and-pencil test?

A - Ability to understand material that has been read.

B - Ability to solve complex mathematical problems.

C - Ability to conduct oneself in a sportsmanlike manner.

D - These abilities are equally difficult to measure in the sense that none of them can be reliably assessed by objective tests.

28. In his high school social studies classes Mr. Brown places major emphasis upon the development of critical thinking skills. Upon learning that an achievement test entitled "Critical Thinking in the Social Studies" has just been published, he writes for a specimen set. How could Mr. Brown best determine whether the test would be a valid measure of his own students' critical thinking skills?

A - Read the test manual to determine whether the norms are adequate and reliable.

B - Examine the statistical data on reliability and validity.

C - Examine the scoring manual to determine how the test scores are weighted.

D - Examine the test questions to determine whether they require the skills and abilities he has been emphasizing.

29. Four teachers are discussing the scores made by their students on a recently administered intelligence test. Which teacher's statement reveals the LEAST understanding of the meaning of a test score?

A - "You can have your test scores if you want them. I prefer my own evaluation of the student's work to anything an I.Q. tells me."

B - "I always knew Mary had an I.Q. of 90--and she has."

C - "I never was more surprised than when John turned up highest in the class. I'll bet he won't score that high again."

D - "I'm glad we finally got these I.Q.'s. I want to group my student's on the basis of ability."

30. Scores on standardized intelligence tests are based on the assumption that all pupils

    A - have had some previous experience with such tests.

    B - have had some formal schooling.

    C - have had similar backgrounds of experience.

    D - are completely unfamiliar with types of questions asked.

31. A teacher has given a test and wishes to compare the standing of each student with all of the others in the class. How could he most quickly and most easily do this?

    A - Compute the mean score.

    B - Compute the median score.

    C - Make a scatter-plot of the scores.

    D - Make a frequency distribution of the scores.

32. The standard error of measurement is a numerical figure which indicates

    A - the number of points a student's test score is in error in relation to the score he should make.

    B - the number of points the mean score for the test is in error.

    C - a range of scores within which the student's true score most probably falls.

    D - the reliability of the test norms.

33. Which type of test is typically composed of questions derived from a systematic study of students' errors?

    A - An aptitude test.

    B - An achievement test.

    C - A prognostic test.

    D - A diagnostic test.

34. At the end of the semester a history teacher gave his pupils an essay test on the material covered during the preceding weeks. When he graded the papers he deducted points from the total score for spelling, grammar and English usage. In so doing he

    A - increased the accuracy of his final grades.

    B - increased the objectivity of measurement.

    C - lowered the reliability of the test.

    D - lowered the validity of the test.

35. A teacher learns that two standardized reading tests correlate .96 with each other. This indicates that the two tests

    A - have high validity.

    B - have been normed on the same group.

    C - contain many questions that are identical.

    D - can be used inter-changeably.

36. Many test experts recommend the use of age norms instead of grade norms for evaluating pupil achievement. This is because

    A - age norms are based on much larger numbers of pupils.

    B - age norms are more representative of the total population of pupils.

    C - grade norms are heavily influenced by a school's promotion policies and curriculum practices.

    D - grade norms cannot be used for making comparisons between individual pupils.

37. Year after year the mean achievement test scores for the students in school X consistently fall one year or more above the national norms. What is the most probable cause of this finding?

    A - School X is located in an upper-middle class community.

    B - School X is staffed with expert teachers.

    C - School X is using tests that have unreliable norms.

    D - School X stresses the traditional, rather than the activity, curriculum.

38. A Social Studies teacher senses that concealed feelings of hostility among his pupils are preventing good group work from occurring on class projects. What type of test could furnish him information about this problem?

A - A personality test.

B - A sociometric test.

C - A projective test.

D - A social adjustment test.

39. Which type of ability is most appropriately measured by means of a quality scale?

A - Handwriting ability.

B - Spelling ability.

C - Computational ability.

D - Mechanical ability.

40. In contrast to a test which is "well standardized" a poorly standardized test is one which

A - has norms that are based on fewer than 1,000 cases.

B - uses a norm sample that is not representative of the group for which the test is designed.

C - consists of test questions that have not been validated.

D - includes test questions that do not measure what they are intended to measure.

41. In which of the following instances is a teacher most justified in requiring all students to make test scores of 75 percent or better?

A - The class is composed of above average students.

B - The questions are essay rather than objective.

C - The questions measure knowledge of essentials.

D - The pupils have had ample time to prepare for the test.

42. If a teacher wants to measure pupils' growth in her subject from the beginning to the end of the school year it is necessary for her to select an achievement test which

A - provides a diagnostic profile of scores.

B - correlates well with grades in high school.

C - has a reliability of at least .95.

D - has comparable forms.

43. School X has decided to administer its standardized test program for seventh grade pupils early in the fall, instead of late in the spring as it has done in previous years. Which of the following types of tests should receive the heaviest emphasis in the changed program?

A - Interest

B - Personality

C - Aptitude

D. - Intelligence

44. John scored at the 60th percentile in an academic aptitude test, but scored only at the 57th percentile in a test of reading ability. John's teacher should

A - ignore this difference altogether.

B - provide him with individual help in reading.

C - motivate him to read more extensively outside of school.

D - have him retested in reading ability.

45. Many teachers regard low test scores as "bad" and high test scores as "good". In what way is this habit of thinking most detrimental to students?

A - It causes teachers to over-estimate the true abilities of students.

B - It causes teachers to mark students on the basis of their achievement.

C - It prevents teachers from providing appropriate learning experiences for students.

D - It prevents teachers from having an open mind about the capabilities of students in areas other than school-work.

46. If a teacher wishes to obtain a critical review of a standardized test she plans to use with her classes she should consult the

A - Test Manual issued by the publisher.

B - Encyclopedia of Educational Research.

C - Review of Educational Research.

D - Mental Measurements Yearbook.

47. The meaning of which one of the following types of scores is completely self-explanatory?

A - A raw score.

B - A percentile score.

C - A converted score.

D - A standard score.

48. If a certain test is taken by a group of high school seniors, and is found to correlate .62 with freshman grades received in college by these same seniors, one can say that

A - the test is a valid predictor of college aptitude.

B - the test is not a reliable measure of college success.

C - approximately two-thirds of those taking the test will be successful in college.

D - students who score lower than 62 will be unsuccessful in college.

49. John is 14 years old and has an I.Q. of 100. Mary is 12 years old and has an I.Q. of 100. What can be said of their mental ages?

A - Their mental ages are the same.

B - John's mental age is greater than Mary's.

C - Mary's mental age is greater than John's.

D - Their mental ages cannot be determined from the data given.

50. Many intelligence tests provide two scores: a verbal or language score, and a non-verbal or abstract reasoning score. What is the major advantage of such tests?

A - They are easier to interpret.

B - They provide more reliable information about students.

C - They provide a more accurate picture of the student with a language handicap.

D - They provide a better prediction of later achievement in high school as well as in college.

51. Most standardized intelligence tests have reliability coefficients ranging from

A - .75 to .80

B - .80 to .85

C - .85 to .90

D - .90 to .95

52. A teacher is examining the manual for a new diagnostic reading test. In the section labeled, "Description of Test" she finds the statement: "This test provides measures of four completely independent reading skills." In the section labeled, "Test Statistics" she finds the following data on the reliability and intercorrelation of the four scores:

Reading Skills	Par. Mean.	Sent. Mean.	Vocab.	R. Speed
Paragraph Meaning	.88*			
Sentence Meaning	.80	.82*		
Reading Vocabulary	.82	.76	.88*	
Reading Speed	.78	.72	.76	.94*

*The entries in the diagonal are reliability coefficients.

On the basis of the material in the test manual, what criticism should the teacher make?

A - The test does not measure independent reading skills.

B - The test is highly speeded.

C - The test is not sufficiently reliable to make comparisons between individual pupils.

D - The correlations among the scores indicate that the test possesses little validity.

53. If a student's test score is two standard deviations above the mean, what percent of the total group does he exceed?

A - 34%

B - 68%

C - 86%

D - 96%

54. In general, increasing the length of a test will make it more

A - valid.

B - reliable.

C - objective.

D - diagnostic.

55. In administering an intelligence test that has two short separately timed parts, Mr. Roberts discovers that he has called time on the verbal section 10 minutes too soon. As the students are now working on the non-verbal section, he decides to add 10 minutes to this part to make up for the 10 minutes which had been cut from the verbal section.

Which of the following will be LEAST affected by Mr. Roberts' error?

A - The students' ranks as determined by their raw scores on the test.

B - The mean raw score of the class.

C - The range of scores made by the class.

D - The difference between each student's verbal and non-verbal I.Q.

56. A diagnostic test which provides the teacher with a profile of scores is of little value unless

A - the sub-tests which make up the profile are quite reliable.

B - the test has reliable norms.

C - the test has been shown to be a valid predictor of future achievement.

D - the scores are reported in terms of percentile ranks.

57. If a test has a reliability of .90 for an "average" group of students, and is administered to a "superior" group of students, what will its reliability be for the superior group?

A - Larger.

B - Smaller.

C - The same.

D - Different, but not in any predictable way.

58. Test A has a reliability of .92 for grades 7, 8, and 9. Test B has a reliability of .92 for grade 8. These facts tell us that

A - test A is superior because it is reliable over a wider grade range.

B - test B is superior because it provides a more reliable measure of eighth grade achievement.

C - both tests are equally reliable for eighth grade students.

D - Test B would be as reliable as Test A if administered to seventh and ninth grade students.

59. Below are the percentile scores of four students on a standardized reading test:

Mary:	45	Tom·	90
Jane:	50	Jim:	95

What can be said about the difference in these students' achievement?

A - The relative differences in achievement between Mary and Jane is equal to that between Tom and Jim.

B - Tom's achievement is twice as great as Mary's.

C - The teacher can be more certain about Jim being better than Tom than she can about Jane being better than Mary.

D - The teacher should recognize that if the test were administered a second time it is quite probable that Tom would do better than Jim.

60. "The experimental group had a mean score of 35 on the test and the control group had a mean score of 20. This difference is significant at the 1% level."

This statement means that

A - the difference is a true difference and cannot be attributed to chance.

B - a difference this large would occur by chance one time in a hundred.

C - if the experiment were repeated there is a fifty-fifty chance that a difference this large would be obtained.

D - if the experiment were repeated several times this difference would occur one percent of the time.

Check your degree of familiarity with the thirty tests listed below by writing the appropriate letter on the line to the right of each test.

A - Have never heard of the test.

B - Recognize the name, but have no other knowledge about the test.

C - Know what the test measures in a general way.

D - Have examined (or studied about) the test and am fairly familiar with it.

Be sure to write a letter after every test.

61. Stanford-Binet I.Q. ____

62. Bell Adjustment Inventory ____

63. Arting Reading Ability ____

64. Strong Vocational Interest ____

65. Hart Personality Schedule ____

66. Iowa Silent Reading ____

67. Ace Psychological ____

68. Jenson Inventory ____

69. Seashore Musical Talent ____

70. Burnham Interest Inventory ____

71. Cuyler Aptitude Battery ___

72. MMPI ___

73. Kuder Preference Record ___

74. CTMM ___

75. Durwith's Study Skills ___

76. AIMC ___

77. Gates Reading ___

78. Ender's Paragraph Reading ___

79. Boring's Occupational Inventory ___

80. California Test of Personality ___

81. Coop. Achievement ___

82. Lunt Spatial Relations ___

83. TRSP ___

84. Bernreuter Personality ___

85. Bauman Interest Blank ___

86. SCAT ___

87. STEP ___

88. NIRO ___

89. PREP ___

90. Miller Preference Blank ___

PART IV

SUB-STUDY C

Appendix 7:

Interview schedule and questionnaire.

UTR-SSC Interview Schedule

I. Before we begin will you help us complete our records by telling me

A. The highest degree you hold
B. The number of semester hours (or units) you have accumulated since earning the ______________ degree
C. The number of courses you have had in guidance and testing.

We want to talk with you today about some of the problems associated with forming homogeneous classes in high schools. So that our conversation will be similar to conversations we have scheduled with other teachers, we are using a rather standardized format to help guide the interview.

Some of the questions we hope to be able to answer as a result of this study relate to teachers' perceptions of just what qualifications a student should have in order to qualify for inclusion in various accelerated classes. In order to focus on one specific area, we are asking teachers to tell us what they see as the important qualifications for inclusion in an accelerated eleventh grade science class. By accelerated we mean a class in which the students go at a faster pace and go deeper into the subject than in an average or regular class.

Here is a list of kinds of information about students often available to teachers. (Give subject "Information about students often available to teachers.") I would like to examine this list and indicate what position best describes your minimum standard for a student to be considered for inclusion in an accelerated eleventh grade science class. Do this by circling the appropriate abbreviation in the scale to the right of each item. For example, if you feel that a student must be "above average" with respect to intelligence test scores you should circle the abbreviation 'AbAv' for this item. If you feel that reading achievement "doesn't matter" you should circle the abbreviation 'DM' to the right of this item. If you feel that a student must be "far above average" in science achievement you should circle the abbreviation 'FAbAv' to the right of this item. Of course, these are merely examples to illustrate how to fill out the questionnaire. I want you to circle the abbreviation which best describes your minimum standard on each of these items.

(After R finishes this task...)

Obviously, some of these kinds of information may seem to be necessary to have for almost every student in order to make an intelligent decision about placing him in an accelerated or regular eleventh grade science class while others may seem necessary only in special cases. Please indicate the kinds of information you would want to have about every student before making a decision to place him in an accelerated or regular eleventh grade science class. Do this by writing an 'x' in the space to the left of each such kind of information on your list.

During the rest of our conversation we will need to make rather frequent use of the term 'percentile'. This term is often used to describe how one person ranks in relation to others on some attribute. Percentiles range from 0 to 100, and -- as you probably know -- _the higher the percentile, the higher the person stands in relation to others_. For example, a student scoring at the 90th percentile in reading comprehension, when compared with other students of his age, scored higher than 90% of them on this test. Percentile rank is not limited to measures of achievement or ability. For example, if a student were ranked at the 20th percentile on the clerical scale in a vocational interest questionnaire, it would mean that the student expressed little interest in clerical occupations because he exceeded only 20% of the group who took the test.

Now, I would like for you to assume that it is the beginning of a school year and that you have accepted a teaching position in a new school. This school maintains a standard record file for every student which is filled out by the home-room teacher at the close of each academic year. Here is a record card. Let me explain it to you. (Show blank card.)

Here at the top (point) the teacher records the grade the student has just completed -- ninth, tenth, etc. Here, the student's name and age. In these spaces, he records all test score data obtained on the student during the year. In this space he has the student's advisor fill in _his_ evaluation. In contrast to the home-room teacher, this school chooses teachers to be advisors who have had longer experience in the school and who, in some cases, have had training in guidance and counseling.

The principal has asked you to serve on a selection advisory committee whose function is to recommend which eleventh grade students should be placed in accelerated eleventh grade science classes and which should be kept in regular eleventh grade science classes. I have here the standard record file cards for some of the eleventh grade students. These cards were filled out by the tenth grade home-room teacher at the end of the last school year. All data that you find on these cards were obtained last year. Like all record cards, some of these are incomplete -- indicating that the student was absent on the date a test was given, or that the home-room teacher was unable to fill them out completely for some reason.

This is the task we are asking you to do: to sort the cards into those you would recommend for an accelerated science class, and those you would keep in the regular science class. If you are unable to decide on a recommendation for some of these students you may put their cards in an "undecided" category. You may place as many students in either class as you wish.

(Give R the 14 cards)

(The next several paragraphs describe the rest of the interview. Quotation marks are used to indicate directions to be given to each R.)

After the cards are sorted into piles work with one pile at a time starting with the accelerated pile.

1. "Tell me which pieces of information, for you, pointed the student toward the accelerated group?" (Referring to the first card...) Record R's responses on his data sheet.

2. For all cards except number 1: "Occasionally a teacher places this card in the regular pile. Do you feel there is anything on this card which might prompt a teacher to do this?" Record R's responses on his data sheet.

3. "Did you feel that any of the information on the card was of no use in making your decision?" Record R's responses.

4. Cover the "positive" part of the conflict pair with the appropriate mask. "Suppose you hadn't had this information. The card would have looked like this. (Point) Would you have been able to make a decision, and, if so, in which group would you have placed the student?" Record R's response, then ask: "Why?" Record R's response.

After completing all of the accelerated pile, turn to the regular pile and complete the following sequence.

1. "Tell me which pieces of information, for you, pointed the student toward the regular group?" (Referring to the first card...) Record R's responses on his data sheet.

2. For all cards except number 14: "Occasionally a teacher places this card in the accelerated pile. Do you feel there is anything on this card which might prompt a teacher to do this?" Record R's responses on his data sheet.

3. "Did you feel that any of the information on the card was of no use in making your decision?" Record R's responses.

4. Cover the "negative" part of the conflict pair with the appropriate mask. "Suppose you hadn't had this information. The card would have looked like this. (Point) Would you have been able to make a decision, and, if so, in which group would you have placed the student?" Record R's response, then ask: "Why?" Record R's response.

After completing all of the regular pile, turn to the undecided pile and complete the following sequence of questions for each card.

1. "Were there any pieces of information which you felt pointed the student toward the accelerated group?" Record R's answer.

2. "Were there any pieces of information which you felt pointed the student toward the regular group?" Record R's answer.

3. "Did you feel that any of the information on the card would be no use in making a decision?" Record R's answer.

If R mentioned a piece of information which is part of a conflict pair when answering questions 1 or 2, go on to the following questions. If not, go on to the next card.

4. Place a mask over the test data part of the conflict pair, then: "Suppose this card had come to you with only the information you can see on it now, would a decision have been possible for you? In which group would you have placed the student? Why?" Record R's answer.

5. Remove the mask used above and place a mask over the non-test data part of the conflict pair, then: "Now, suppose this card had come to you with only this information on it, would a decision have been possible for you? In which group would you have placed the student? Why?" Record R's answers.

Name________________________

School______________________

Date________________________

utr-ssc

Information about Students often Available to Teachers

	Doesn't Matter	About Average	Above Average	Far above Average
____1. Intelligence Test Scores	DM	Av	AbAv	FabAv
Standardized Achievement Test Scores in:				
____2. Reading	DM	Av	AbAv	FabAv
____3. Science	DM	Av	AbAv	FabAv
____4. Mathematics	DM	Av	AbAv	FabAv
____5. Social Studies	DM	Av	AbAv	FabAv
Tests of Vocational Interest in:				
____6. Mechanical	DM	Av	AbAv	FabAv
____7. Computational	DM	Av	AbAv	FabAv
____8. Scientific	DM	Av	AbAv	FabAv
____9. Persuasive	DM	Av	AbAv	FabAv
____10. Artistic	DM	Av	AbAv	FabAv
____11. Literary	DM	Av	AbAv	FabAv
____12. Musical	DM	Av	AbAv	FabAv
____13. Social Service	DM	Av	AbAv	FabAv
____14. Clerical	DM	Av	AbAv	FabAv
Faculty members' perceptions of his:				
____15. Intelligence	DM	Av	AbAv	FabAv
____16. Achievement in school subjects	DM	Av	AbAv	FabAv
____17. Interest in science and related fields	DM	Av	AbAv	FabAv

	Doesn't Matter	About Average	Above Average	Far above Average
___18. Motivations toward school work	DM	Av	AbAv	FabAv
Other kinds of information:				
___19. Grades	DM	Av	AbAv	FabAv
___20. Family background	DM	Av	AbAv	FabAv
___21. Extracurricular Activities	DM	Av	AbAv	FabAv
___22. Honors and Awards	DM	Av	AbAv	FabAv
Other (Please list)				
___23. ____________________	DM	Av	AbAv	FabAv
___24. ____________________	DM	Av	AbAv	FabAv
___25. ____________________	DM	Av	AbAv	FabAv
___26. ____________________	DM	Av	AbAv	FabAv

DATA SHEET utr-ssc

Name____________________ School____________________ Date____________

Highest degree held____________ Number of semester hours (or units) accumulated since earning

last degree________ hours units Number of courses in guidance and testing____________

CARD SORT

Card No.	Which Pile	Test			Non-Test			Quest. 4 Which Pile	Question 4 "Why"	Quest. 5 Which Pile	Question 5 "Why"
		I	Ach	Int	I	Ach	Int				
1											
2		+			-						
3		-			+						
4		+			-						
5		-			+						
6			+			-					
7			-			+					
8			+			-					
9			-			+					
10				+			-				
11				-			+				
12				+			-				
13				-			+				
14											

Appendix 8:

SSC Card Sort
and scoring
directions.

YEARLY RECORD FOR GRADE____

NAME AGE

INTELLIGENCE	ACHIEVEMENT PERCENTILE	KUDER PROFILE PERCENTILE

HOME-ROOM TEACHER:

ADVISOR:

YEARLY RECORD FOR GRADE 10

NAME Margaret Nielson AGE 16

INTELLIGENCE	ACHIEVEMENT	PERCENTILE	KUDER PROFILE	PERCENTILE
Otis: 124	Reading	84		
	Science	82		
	Math	81		
	Social Studies	84		

HOME-ROOM TEACHER:

Margaret is a capable and industrious student. She does good work in all her classes and is very popular with both her teachers and her peers.

ADVISOR:

YEARLY RECORD FOR GRADE 10

NAME Glen Chapman AGE 16

INTELLIGENCE	ACHIEVEMENT PERCENTILE	KUDER PROFILE	PERCENTILE
CTMM: 125		Mechanical	75
		Computational	87
		Scientific	83
		Persuasive	64
		Artistic	50
		Literary	43
		Musical	36
		Social Service	28
		Clerical	19

HOME-ROOM TEACHER:

Glen has his heart set on becoming a scientist like his father. Unfortunately his ability does not seem to warrant this. He accompanies his father to the lab evenings and weekends and loves every minute of it. He works very hard but does not seem to understand basic scientific concepts.

ADVISOR:

Glen is keenly interested in all things scientific. All three science teachers have commented to me on his interest but they are worried that his ability is just not up to his ambitions.

YEARLY RECORD FOR GRADE 10

NAME Mary Hilton AGE 16

INTELLIGENCE	ACHIEVEMENT PERCENTILE	KUDER PROFILE	PERCENTILE
Otis: 103		Mechanical	82
		Computational	81
		Scientific	79
		Persuasive	58
		Artistic	42
		Literary	46
		Musical	48
		Social Service	60
		Clerical	22

HOME-ROOM TEACHER:

An excellent student of high ability. Several teachers have commented to me about what a pleasure it is to have Mary in their classes.

ADVISOR:

This girl has yet to make a firm decision regarding her future. Her chief interest lies in working in a hospital, but she does not want to become a nurse. I have discussed the possibilities of becoming a laboratory technician, an x-ray technician, or doing medical research. Of these she prefers the last.

YEARLY RECORD FOR GRADE 10

NAME Betty Mullen AGE 16

INTELLIGENCE	ACHIEVEMENT PERCENTILE	KUDER PROFILE PERCENTILE
Otis: 129		Mechanical 26 Computational 29 Scientific 32 Persuasive 43 Artistic 76 Literary 54 Musical 40 Social Service 65 Clerical 94

HOME-ROOM TEACHER:

Betty appears to be of inferior ability. She has come into serious conflict with two of her teachers. All of her teachers complain about her poor attitude and lack of interest.

ADVISOR:

No interest in school or any of her classes.

YEARLY RECORD FOR GRADE 10

NAME Bernice Eager AGE 16

INTELLIGENCE	ACHIEVEMENT	PERCENTILE	KUDER PROFILE	PERCENTILE
Kuhlman-Anderson: 102			Mechanical	17
			Computational	28
			Scientific	31
			Persuasive	62
			Artistic	24
			Literary	23
			Musical	19
			Social Service	48
			Clerical	71

HOME-ROOM TEACHER:

Bernice is extremely bright. She loves her work in Home Economics and dreams of the day when she will have her own home and family. She has no interest in anything except home-planning and home-management.

ADVISOR:

This girl's strong interest in Home Economics and her very high ability has led me to suggest that she enter this field professionally. She will have none of it. She has no interests in anything other than becoming a wife and mother.

YEARLY RECORD FOR GRADE 10

NAME Gregory Barton AGE 16

INTELLIGENCE	ACHIEVEMENT	PERCENTILE	KUDER PROFILE	PERCENTILE
	Reading	85	Mechanical	75
	Science	89	Computational	87
	Math	88	Scientific	83
	Social Studies	64	Persuasive	64
			Artistic	50
			Literary	43
			Musical	36
			Social Service	28
			Clerical	19

HOME-ROOM TEACHER:

Does poor work.

ADVISOR:

Plans to become a chemist like his father and brother but his poor school work makes this possibility unlikely.

YEARLY RECORD FOR GRADE 10

NAME Joyce Durwith AGE 16

INTELLIGENCE	ACHIEVEMENT	PERCENTILE	KUDER PROFILE	PERCENTILE
	Reading	26	Mechanical	85
	Science	25	Computational	87
	Math	26	Scientific	85
	Social Studies	24	Persuasive	16
			Artistic	49
			Literary	37
			Musical	43
			Social Service	21
			Clerical	70

HOME-ROOM TEACHER:

A very hard-working girl. Does well in all of her classes.

ADVISOR:

Very good student. Have talked with her about going on to college. She plans to study nuclear physics.

YEARLY RECORD FOR GRADE 10

NAME Martin Anderson AGE 16

INTELLIGENCE	ACHIEVEMENT	PERCENTILE	KUDER PROFILE	PERCENTILE
	Reading	84	Mechanical	33
	Science	81	Computational	45
	Math	81	Scientific	37
	Social Studies	83	Persuasive	81
			Artistic	69
			Literary	67
			Musical	52
			Social Service	86
			Clerical	41

HOME-ROOM TEACHER:

This boy is near the bottom of his class in achievement. Many teachers commented to me about his poor work.

ADVISOR:

Poor worker. Very low in achievement. Interested only in athletics. Talks of being a professional athlete.

YEARLY RECORD FOR GRADE 10

NAME Darrell O'Rourke AGE 16

INTELLIGENCE	ACHIEVEMENT	PERCENTILE	KUDER PROFILE	PERCENTILE
	Reading	28	Mechanical	42
	Science	17	Computational	39
	Math	14	Scientific	43
	Social Studies	26	Persuasive	84
			Artistic	68
			Literary	82
			Musical	27
			Social Service	65
			Clerical	79

HOME-ROOM TEACHER:

This is a very hard working student. Gets good grades. He is especially interested in English and literature.

ADVISOR:

Plans to become a sports writer. A good student.

YEARLY RECORD FOR GRADE 10

NAME Kathy Parker AGE 16

INTELLIGENCE	ACHIEVEMENT PERCENTILE	KUDER PROFILE	PERCENTILE
CTMM: 130		Mechanical	75
		Computational	80
		Scientific	84
		Persuasive	21
		Artistic	38
		Literary	42
		Musical	50
		Social Service	36
		Clerical	61

HOME-ROOM TEACHER:

Has superior ability. She is particularly interested in becoming a social worker.

ADVISOR:

Plans to become a social worker. Superior in ability. I have discussed colleges and college courses with her in detail.

YEARLY RECORD FOR GRADE 10

NAME Alex Crane AGE 16

INTELLIGENCE	ACHIEVEMENT PERCENTILE	KUDER PROFILE	PERCENTILE
Otis: 129		Mechanical	26
		Computational	29
		Scientific	32
		Persuasive	43
		Artistic	76
		Literary	54
		Musical	40
		Social Service	65
		Clerical	94

HOME-ROOM TEACHER:

Alex is a top-ability boy. He would do well in any of a number of fields.

ADVISOR:

This boy's only problem is in deciding what most interests him. He enjoys all of his classes. To date he has considered Law, Medicine, Chemistry and Teaching!

YEARLY RECORD FOR GRADE 10

NAME Ruth Skillman AGE 16

INTELLIGENCE	ACHIEVEMENT PERCENTILE	KUDER PROFILE	PERCENTILE
Kuhlman-Anderson: 104		Mechanical	66
		Computational	79
		Scientific	92
		Persuasive	44
		Artistic	72
		Literary	77
		Musical	43
		Social Service	74
		Clerical	91

HOME-ROOM TEACHER:

Ruth is a very conscientious girl who gets along well with everyone. Although she works very hard, she does not always seem to "grasp" the essentials.

ADVISOR:

Is seriously considering becoming a high school English teacher.

YEARLY RECORD FOR GRADE 10

NAME Morton Dawson AGE 16

INTELLIGENCE	ACHIEVEMENT PERCENTILE	KUDER PROFILE	PERCENTILE
Otis: 101		Mechanical	23
		Computational	21
		Scientific	18
		Persuasive	41
		Artistic	60
		Literary	52
		Musical	48
		Social Service	81
		Clerical	87

HOME-ROOM TEACHER:

Morton is very limited in ability.

ADVISOR:

Plans to become an atomic scientist but his lack of ability makes this an unrealistic goal.

YEARLY RECORD FOR GRADE 10

NAME Robert Elliott AGE 16

INTELLIGENCE	ACHIEVEMENT	PERCENTILE	KUDER PROFILE	PERCENTILE
CTMM: 104	Reading	24		
	Science	26		
	Math	26		
	Social Studies	23		

HOME-ROOM TEACHER:

Below average student, quite limited in ability and achievement. Careless about his work! Dislikes school.

ADVISOR:

Ability and achievement are both limited.

SCORING DIRECTIONS

The basic rational of the scoring system is to assign higher weight as the value the respondent places on the single contradictory piece of information increases. The amount of value the respondent places on specific kinds of information is inferred from his decision pattern, various decision patterns being weighted as shown in the following table.

Decision pattern	Scoring points for cards 2, 3, 6, 7, 10, 11*	Scoring points for cards 4, 5, 8, 9, 12, 13**
R-R	5	0
R-N	4	1
R-A	3	2
A-R	2	3
A-N	1	4
A-A	0	5
N-N	0	0
N-A	2.5	0
N-R	0	2.5

* These cards contain three pieces of information arguing accelerated placement and one arguing regular.

**These cards contain three pieces arguing regular placement and one arguing accelerated.

For cards 2, 3, 6, 7, 10, and 11 an original decision to place the card in the "regular" pile--an "R" decision--means that the respondent valued the single piece of negative information enough to override three positive pieces of information. An original decision of "A" (accelerated) means that the respondent did not value the single piece of negative information enough to override the three positive pieces of information. The scale is not dichotomized. It remains to split each half into three "parts" on the basis of what change takes place in the respondent's decision when a piece of information is removed (see Appendix 7). Consider the upper half of the scale (c.e., the original decision was "R"). The three possible decision patterns are Regular-then-still-Regular (R-R), Regular-then-no-decision (R-N), and Regular-then-Accelerated (R-A). Prior to the second decision the one negative piece of information originally on the card was removed. This left a revised card having three pieces of information leaning toward A and none leaning toward R. The subject who changes to "A", although heavily weighting the single negative piece of information in his original decision, is able to reverse himself when the negative information is no longer offered; the subject who changes to "N" even through all now available information points toward a decision of "A" is not able to reverse himself, indicating (though not unequivocally) higher value on the removed negative information than the respondent whose pattern was R-A. The respondent who says "R-R" either "remembers" the negative information even though it is no longer present or he means, "I can't put this person in the A-group without information of the kind just removed (i.e., the respondent should have said "R-N" but didn't) or something of a similar nature. The order R-R, R-N, R-A is thus suggested. Similarly, the order A-R, A-N, A-A is suggested for the lower half of the the scale. By identical reasoning, cards 4, 5, 8, 9, 12, and 13 were assigned wieghts.

When the original decision was "N" no interpretation was attempted unless the changed decision was "A" for cards of the first type or "R" for cards of the second type. In these cases an original decision of "N" was assigned the mid-point of the scale.

PART V

SUB-STUDY D

Appendix 9:

SSD Card Sort,
interviewer's
schedule, and
scoring directions.

YEARLY RECORD FOR GRADE 10

NAME Gregory Sergas AGE 16

INTELLIGENCE	ACHIEVEMENT PERCENTILE		KUDER PROFILE PERCENTILE	
	Reading	85	Mechanical	7
	Science	89	Computational	27
	Math	88	Scientific	73
	Social Studies	64	Persuasive	54
			Artistic	90
			Literary	41
			Musical	36
			Social Service	40
			Clerical	32

HOME-ROOM TEACHER:

An excellent student high in achievement and ability.

ADVISOR:

Well-liked. Capable. Conscientious. Excellent student.

YEARLY RECORD FOR GRADE 10

NAME Gregory Barton Age 16

INTELLIGENCE	ACHIEVEMENT	PERCENTILE	KUDER PROFILE	PERCENTILE
	Reading	65	Mechanical	75
	Science	89	Computational	87
	Math	88	Scientific	83
	Social Studies	64	Persuasive	64
			Artistic	50
			Literary	43
			Musical	36
			Social Service	28
			Clerical	19

HOME-ROOM TEACHER:

An excellent student high in achievement and ability.

ADVISOR:

Well-liked. Capable. Conscientious. Excellent student.

YEARLY RECORD FOR GRADE 10

NAME Glen Chapman AGE 16

INTELLIGENCE	ACHIEVEMENT	PERCENTILE	KUDER PROFILE	PERCENTILE
CTMM: 109	Reading	26	Mechanical	23
	Science	25	Computational	21
	Math	26	Scientific	18
	Social Studies	24	Persuasive	41
			Artistic	63
			Literary	61
			Musical	48
			Social Service	83
			Clerical	87

HOME-ROOM TEACHER:

Glen has his heart set on becoming a scientist like his father. Unfortunately his ability does not seem to warrant this. He accompanies his father to the lab evenings and weekends and loves every minute of it. He works very hard but does not seem to understand basic scientific concepts.

ADVISOR:

Glen is keenly interested in all things scientific. All three science teachers have commented to me on his interest but they are worried that his ability is just not up to his ambitions.

YEARLY RECORD FOR GRADE 10

NAME Doris Sheehan AGE 16

INTELLIGENCE	ACHIEVEMENT	PERCENTILE	KUDER PROFILE	PERCENTILE
OTIS: 124	Reading	84		
	Science	82		
	Math	81		
	Social Studies	84		

HOME-ROOM TEACHER:

This girl has no interest in anything but athletics. She spends all of her time in the gym. Her English teacher tells me she writes nearly all of her papers on games and sports.

ADVISOR:

Interested only in sports. I have talked with her about becoming a physical education teacher but she says she wants to "play," not "teach."

YEARLY RECORD FOR GRADE 10

NAME John DeWitt AGE 16

INTELLIGENCE	ACHIEVEMENT	PERCENTILE	KUDER PROFILE	PERCENTILE
CTMM: 106	Reading	39		
	Science	26		
	Math	27		
	Social Studies	44		

HOME-ROOM TEACHER:

John cares only for science. He is never happier than when he is "Experimenting" in the little laboratory he built in his basement at home.

ADVISOR:

Very interested in science. He told me that his chief problem was to decide which field of science to go into.

YEARLY RECORD FOR GRADE 10

NAME Mary Mullen AGE 16

INTELLIGENCE	ACHIEVEMENT	PERCENTILE	KUDER PROFILE	PERCENTILE
OTIS: 129	Reading	81	Mechanical	26
	Science	87	Computational	29
	Math	82	Scientific	32
	Social Studies	84	Persuasive	43
			Artistic	76
			Literary	54
			Musical	40
			Social Service	65
			Clerical	94

HOME-ROOM TEACHER:

Every teacher who has this girl complains about her. She is near the bottom in all of her classes, her work is rarely handed in on time, she practically refuses to recite or to answer when called on.

ADVISOR:

I am concerned about Mary. She has no interests, no plans, no ambitions. She dislikes school intensely and refuses to work at anything. A very difficult girl.

YEARLY RECORD FOR GRADE 10

NAME Elaine Humphrey AGE 16

INTELLIGENCE	ACHIEVEMENT	PERCENTILE	KUDER PROFILE	PERCENTILE
CTMM: 120	Reading	81	Mechanical	85
	Science	82	Computational	87
	Math	82	Scientific	85
	Social Studies	84	Persuasive	16
			Artistic	49
			Literary	37
			Musical	43
			Social Service	21
			Clerical	31

HOME-ROOM TEACHER:

Excellent student. The math teacher tells me that he has yet to call on Margaret for an explanation that she cannot provide.

ADVISOR:

A born mathematician. Bright and capable girl. Will do well in any type of scientific research.

YEARLY RECORD FOR GRADE 10

NAME Margaret Hilton AGE 16

INTELLIGENCE	ACHIEVEMENT PERCENTILE	KUDER PROFILE	PERCENTILE
CTMM: 103		Mechanical	82
		Computational	81
		Scientific	79
		Persuasive	58
		Artistic	42
		Literary	46
		Musical	48
		Social Service	60
		Clerical	22

HOME-ROOM TEACHER:

Excellent student. The math teacher tells me that he has yet to call on Margaret for an explanation that she cannot provide.

ADVISOR:

A born mathematician. Bright and capable girl. Will do well in any type of scientific research.

YEARLY RECORD FOR GRADE 10

NAME Margaret Nielson AGE 16

INTELLIGENCE	ACHIEVEMENT	PERCENTILE	KUDER PROFILE	PERCENTILE
CTMM: 109	Reading	23	Mechanical	21
	Science	26	Computational	17
	Math	24	Scientific	26
	Social Studies	26	Persuasive	40
			Artistic	37
			Literary	59
			Musical	63
			Social Service	25
			Clerical	87

HOME-ROOM TEACHER:

Margaret is a capable and industrious student. She does good work in all her classes and is very popular with both her teachers and her peers.

ADVISOR:

This girl has yet to make a firm decision regarding her future. Her chief interest lies in working in a hospital, but she does not want to become a nurse. I have discussed the possibilities of becoming a laboratory technician, an X-ray technician, or doing medical research. Of these she prefers the last. Her interest and capability in science would make this a good choice for her.

YEARLY RECORD FOR GRADE 10

NAME Mildred Learch AGE 16

INTELLIGENCE	ACHIEVEMENT	PERCENTILE	KUDER PROFILE	PERCENTILE
CTMM: 106	Reading	23	Mechanical	67
	Science	25	Computational	81
	Math	23	Scientific	93
	Social Studies	26	Persuasive	63
			Artistic	39
			Literary	41
			Musical	16
			Social Service	32
			Clerical	19

HOME-ROOM TEACHER:

A superior student. Does excellent work in all of her classes.

ADVISOR:

One of our better students. No definite plans other than "college" as yet.

YEARLY RECORD FOR GRADE 10

NAME Ruth Skillman AGE 16

INTELLIGENCE	ACHIEVEMENT	PERCENTILE	KUDER PROFILE	PERCENTILE
CTMM: 106	Reading	73	Mechanical	88
	Science	85	Computational	81
	Math	88	Scientific	84
	Social Studies	76	Persuasive	48
			Artistic	53
			Literary	41
			Musical	37
			Social Service	47
			Clerical	55

HOME-ROOM TEACHER:

This girl's ability is quite high. On two different occasions teachers have told me that when class discussion gets involved she can ask a question that cuts right to the heart of the matter.

ADVISOR:

This girl wants to become a high school teacher and I have encouraged her in this. She is of superior ability and I believe she will be quite successful in working with students.

YEARLY RECORD FOR GRADE 10

NAME Martin Anderson AGE 16

INTELLIGENCE	ACHIEVEMENT PERCENTILE	KUDER PROFILE PERCENTILE
CTMM: 121		

HOME-ROOM TEACHER:

This boy is near the bottom of his class in achievement. Many teachers have commented to me about his poor work.

ADVISOR:

Poor worker. Very low in achievement. Interested only in athletics. Talks of being a professional athlete.

YEARLY RECORD FOR GRADE 10

NAME Burt Ingram AGE 16

INTELLIGENCE	ACHIEVEMENT PERCENTILE	KUDER PROFILE PERCENTILE

HOME-ROOM TEACHER:

Inferior ability and achievement. Does failing work in most of his classes.

ADVISOR:

No interest in school or any of his classes. Spends most of his time with his gang hanging around street corners. Below average in ability and achievement.

YEARLY RECORD FOR GRADE 10

NAME Morton Dawson AGE 16

INTELLIGENCE	ACHIEVEMENT	PERCENTILE	KUDER PROFILE	PERCENTILE
			Mechanical	17
			Computational	28
			Scientific	31
			Persuasive	62
			Artistic	24
			Literary	23
			Musical	19
			Social Service	48
			Clerical	71

HOME-ROOM TEACHER:

Poor student. Limited ability.

ADVISOR:

Plans to become a chemist like his father and brother but his low ability and achievement make this possibility unlikely.

YEARLY RECORD FOR GRADE 10

NAME Catherine Kenny AGE 16

INTELLIGENCE	ACHIEVEMENT	PERCENTILE	KUDER PROFILE	PERCENTILE
	Reading	26	Mechanical	23
	Science	26	Computational	21
	Math	24	Scientific	18
	Social Studies	23	Persuasive	49
			Artistic	53
			Literary	57
			Musical	36
			Social Service	72
			Clerical	89

HOME-ROOM TEACHER:

Catherine is a very conscientious student who gets along well with everyone. Although she works very hard and gets good marks she does not always seem to"grasp" the essentials.

ADVISOR:

Is seriously considering becoming a high school science teacher.

YEARLY RECORD FOR GRADE 10

NAME Paul Kilgore AGE 16

INTELLIGENCE	ACHIEVEMENT	PERCENTILE	KUDER PROFILE	PERCENTILE
OTIS: 121	Reading	81	Mechanical	85
	Science	83	Computation	87
	Math	84	Scientific	85
	Social Studies	82	Persuasive	41
			Artistic	16
			Literary	22
			Musical	19
			Social Service	38
			Clerical	21

HOME-ROOM TEACHER

I have heard two different teachers comment on Paul's lackadaisical attitude and class work, and I agree with them. His ability and achievement are both below average and his interest in his studies is nil.

ADVISOR:

Paul is a difficult boy to talk to. When I try to get at the reason for his poor school work and total lack of interest he clams up and I get no where. His lack of ability is as apparent to all of his teachers as it is to me.

YEARLY RECORD FOR GRADE 10

NAME Keith Warren AGE 16

INTELLIGENCE	ACHIEVEMENT	PERCENTILE	KUDER PROFILE	PERCENTILE
OTIS: 123	Reading	84	Mechanical	33
	Science	81	Computational	45
	Math	81	Scientific	37
	Social Studies	83	Persuasive	81
			Artistic	69
			Literary	67
			Musical	52
			Social Service	86
			Clerical	49

HOME-ROOM TEACHER:

This boy is extremely negative toward his work. He has come into serious conflict with two of his teachers. His achievement is very low, and in ability he is near the bottom of his class.

ADVISOR:

YEARLY RECORD FOR GRADE 10

NAME Bill Turner AGE 16

INTELLIGENCE	ACHIEVEMENT	PERCENTILE	KUDER PROFILE	PERCENTILE
CTMM: 123	Reading	64	Mechanical	36
	Science	44	Computational	50
	Math	41	Scientific	41
	Social Studies	72	Persuasive	63
			Artistic	81
			Literary	78
			Musical	82
			Social Service	46
			Clerical	79

HOME-ROOM TEACHER:

Bill's ability is questionable. His teachers tell me that they frequently doubt that the work he hands in is his own. He rarely recites in class or enters into the discussion, and when called on he seems not to understand the question.

ADVISOR:

Bill's parents have talked with me about whether to send him to college, but I doubt that he has the ability. Various comments about his behavior in class from teachers tend to support my judgment in this.

YEARLY RECORD FOR GRADE 10

NAME Norman Richardson AGE 16

INTELLIGENCE	ACHIEVEMENT	PERCENTILE	KUDER PROFILE	PERCENTILE
CTMM: 108	Reading	23	Mechanical	21
	Science	26	Computational	24
	Math	26	Scientific	24
	Social Studies	24	Persuasive	62
			Artistic	37
			Literary	39
			Musical	51
			Social Service	78
			Clerical	61

HOME-ROOM TEACHER:

A very capable girl. Does well in all of her classes.

ADVISOR:

Very good student. Have talked with her about going on to college. She plans to study nuclear physics.

YEARLY RECORD FOR GRADE 10

NAME Joyce Durwith AGE 16

INTELLIGENCE	ACHIEVEMENT	PERCENTILE	KUDER PROFILE	PERCENTILE
CTMM: 109				

HOME-ROOM TEACHER:

A very capable girl. Does well in all of her classes.

ADVISOR:

Very good student. Have talked with her about going on to college. She plans to study nuclear physics.

YEARLY RECORD FOR GRADE 10

NAME Alex Crane AGE 16

INTELLIGENCE	ACHIEVEMENT PERCENTILE	KUDER PROFILE PERCENTILE

HOME-ROOM TEACHER:

A top-notch student. Several teachers have commented to me about what a pleasure it is to have Alex in their classes. His work is always well done and always in on time. He seems interested in everything.

ADVISOR:

This boy's only problem is in deciding what most interests him. He enjoys all of his classes and does very good work in all of them. To date he has considered Law, Medicine, Politics, and Teaching!

YEARLY RECORD FOR GRADE 10

NAME Kathy Parker AGE 16

INTELLIGENCE	ACHIEVEMENT	PERCENTILE	KUDER PROFILE	PERCENTILE
			Mechanical	81
			Computational	79
			Scientific	84
			Persuasive	31
			Artistic	64
			Literary	79
			Musical	42
			Social Service	37
			Clerical	61

HOME-ROOM TEACHER:

An excellent student. Stands high in all of her classes, but is especially interested in English and literature.

ADVISOR:

Plans to become a writer. Superior in ability and achievement. I have discussed colleges and college courses with her in detail.

YEARLY RECORD FOR GRADE 10

NAME Ruth Changer AGE 16

INTELLIGENCE	ACHIEVEMENT	PERCENTILE	KUDER PROFILE	PERCENTILE
	Reading	65	Mechanical	74
	Science	83	Computational	82
	Math	80	Scientific	86
	Social Studies	63	Persuasive	31
			Artistic	16
			Literary	25
			Musical	33
			Social Service	45
			Clerical	59

HOME-ROOM TEACHER:

A bright girl but is below average in achievement. More interested in her duties as cheer-leader than in her school work.

ADVISOR:

A pleasant and popular girl. Does not work up to her full capability. Plans to become a beautician and work in her sister's beauty parlor.

YEARLY RECORD FOR GRADE 10

NAME Bernice Eager AGE 16

INTELLIGENCE	ACHIEVEMENT	PERCENTILE	KUDER PROFILE	PERCENTILE
Kuhlmann-Anderson: 122	Reading	84	Mechanical	87
	Science	84	Computational	85
	Math	84	Scientific	93
	Social Studies	81	Persuasive	40
			Artistic	27
			Literary	36
			Musical	31
			Social Service	43
			Clerical	22

HOME-ROOM TEACHER:

Bernice is extremely bright. She loves her work in Home Economics and dreams of the day when she will have her own home and family. She has no interest in anything except home-planning and home-management.

ADVISOR:

This girl's strong interest in Home Economics and her very high ability has led me to suggest that she enter this field professionally. She will have none of it. She has no interest in anything other than becoming a wife and mother.

YEARLY RECORD FOR GRADE 10

NAME Carroll Scott AGE 16

INTELLIGENCE	ACHIEVEMENT	PERCENTILE	KUDER PROFILE	PERCENTILE
OTIS: 120	Reading	81	Mechanical	87
	Science	84	Computational	86
	Math	83	Scientific	93
	Social Studies	81	Persuasive	40
			Artistic	18
			Literary	26
			Musical	38
			Social Service	54
			Clerical	19

HOME-ROOM TEACHER:

Below average in achievement. Work is sloppy and never on time. The only teacher who has not commented on this is the physical education teacher. She always gets A's in physical education.

ADVISOR:

This girl's low achievement will prevent her from being successful in college. She is planning to attend college, and I have several times warned her that unless her achievement improves she will have difficulty in gaining admittance. She plans to become a physical education teacher.

YEARLY RECORD FOR GRADE 10

NAME Frances DeLong AGE 16

INTELLIGENCE	ACHIEVEMENT	PERCENTILE	KUDER PROFILE	PERCENTILE
OTIS: 129	Reading	84		
	Science	82		
	Math	81		
	Social Studies	81		

HOME-ROOM TEACHER:

This girl is a problem! Her work is very poor, her ability is definitely below average, and her attitude toward school and her teachers worse than both. Every teacher complains of her poor attitude and lack of interest.

ADVISOR:

If this girl has any interests I cannot locate them. I have talked with her several times, but with no success. Her lack of ability and achievement are all part of the same picture.

YEARLY RECORD FOR GRADE 10

NAME Darrell O'Rourke AGE 16

INTELLIGENCE	ACHIEVEMENT	PERCENTILE	KUDER PROFILE	PERCENTILE
	Reading	28	Mechanical	42
	Science	17	Computational	39
	Math	14	Scientific	43
	Social Studies	26	Persuasive	84
			Artistic	68
			Literary	42
			Musical	27
			Social Service	65
			Clerical	79

HOME-ROOM TEACHER:

Below average student, quite limited in ability and achievement. Careless about his work. Dislikes school.

ADVISOR:

Ability and achievement are both limited.

YEARLY RECORD FOR GRADE 10

NAME Michael Vaughan AGE 16

INTELLIGENCE	ACHIEVEMENT	PERCENTILE	KUDER PROFILE	PERCENTILE
OTIS: 107	Reading	23	Mechanical	21
	Science	24	Computational	18
	Math	26	Scientific	24
	Social Studies	24	Persuasive	36
			Artistic	41
			Literary	32
			Musical	58
			Social Service	85
			Clerical	79

HOME-ROOM TEACHER:

A very hard working student. Gets good grades.

ADVISOR:

Mike plans to become a high school science teacher and I have encouraged him in this. I talked with his chemistry teacher who told me of the excellent work Mike did on his science projects. It seems as though he spent more time and did a more thorough job than anyone else in the class.

YEARLY RECORD FOR GRADE 10

NAME Robert Elliott AGE 16

INTELLIGENCE	ACHIEVEMENT PERCENTILE		KUDER PROFILE PERCENTILE
CTMM: 108	Reading	24	
	Science	26	
	Math	26	
	Social Studies	23	

HOME-ROOM TEACHER:

Robert is a capable and hard-working student. He does good work in all of his classes. His ability is well above average.

ADVISOR:

Plans to become a chemist or a physician. Does excellent work in his science classes.

INTERVIEWER'S SCHEDULE
for
THE CUMULATIVE RECORD CARD-SORTING TEST

This test is administered individually to each teacher. The materials you need are:

1. Set of Record Cards.
2. Score sheet.

Fill out the data on the score sheet before the interview.

Directions:

I would like for you to assume that it is the beginning of a school year and that you have accepted a teaching position in a new school. In this school every teacher is assigned a home-room and is responsible for much of the guidance provided for the students in it. You learn that your assignment is a group of 28 eleventh grade students.

The school maintains a standard record file for every student which is filled out by the home-room teacher at the close of each academic year. Here is the record card. Let me explain it to you. (Show blank card.)

Here at the top (point) the teacher records the grade the student has just completed--9th, 10th, 11th, etc. Here the student's name and age. In these spaces he records all tests which were given the student that year. The higher the percentile, the higher the student stands in relation to others. In this space he has the student's advisor fill in his evaluation. In contrast to the home-room teacher, this school chooses teachers to be advisors who have had longer experience and who in some cases have had training in vocational and occupational guidance.

I have here the record cards for the 28 students assigned to your home-room. These cards were filled out by the 10th grade home room teacher at the close of last year. All data that you find on them, therefore, were obtained during that year. Like all record cards, some of these are incomplete--indicating that the student was absent on the date the test was given, or that the home-room teacher was sleepy on the day she filled them out.

Your first duty as a home-room teacher is to make recommendations to the principal regarding which of these students should be placed in the accelerated eleventh grade science class. This is the task we are asking you to do: to sort the cards into those you would tentatively recommend for the accelerated class, and those you would tentatively keep in the regular class. By "accelerated," we mean a class where the students go at a faster pace and go deeper into the subject than those in an average or regular class.

Here are the cards--please read each one carefully, and on the basis of whatever data you find there tell me which class you would place the student in. You may take as much time as you wish, and you may place as many students in either group as you wish.

(As the teacher goes through the pack, record his placement of each card on the score sheet.)

DIRECTIONS FOR SCORING SSD CARD SORT
FOR T-NT SCORE

The T-NT score is determined by the sum of the weights of the following cards according to their placement:

Card No.	If placed in Regular Group	If placed in Accelerated Group
3	0	5
4	5	0
8	6	2
9	8	3
11	3	8
14	5	0
15	2	6
16	3	8
19	8	3
22	0	5
24	1	5
25	3	7
27	5	1
28	7	3

Appendix 10:

Questionnaire
for teachers.

TEST PRACTICES AND ATTITUDES

This part of the questionnaire concerns the testing program in your school and the attitudes of other staff members regarding it. Please read all questions carefully.

1. Below is a list of six different kinds of published tests. On the line to the right of each one, place a check if you think your school ought to administer it to students.

Intelligence ___
Academic Aptitude ___
Achievement in Subject Fields ___
Achievement in Reading ___
Interest ___
Personality ___

2. About how many of the other teachers in your school do you think would check the tests you did? (Make the best guess you can if you are not sure.)

Almost all ___ Less than half ___
More than half ___ Almost none ___

3. Which of the following types of tests are presently administered to students in your school?

Intelligence ___
Academic Aptitude ___
Achievement in Subject Fields ___
Achievement in Reading ___
Interest ___
Personality ___

4. Here are three commonly held attitudes regarding a student's scores on standardized tests.

A. A test score is a valuable piece of information which answers many of the questions I have about my students.

B. A test score is a valuable piece of information useful in raising important questions in my mind about my students.

C. A test score is an interesting piece of technical information but possesses little or no value for the on-going activities of the classroom.

5. How many of the teachers in your school would you say hold Attitude A? If you can make even a very rough guess, please check one of the proportions below.

Almost all ___ Less than half ___
More than half ___ Almost none ___
Don't know ___

6. How many would you say hold Attitude B?

Almost all ___ Less than half ___
More than half ___ Almost none ___
Don't know ___

7. How many would you say hold Attitude C?

Almost all ___ Less than half ___
More than half ___ Almost none ___
Don't know ___

8. Of these attitudes, which one comes closest to the one you think teachers ought to hold?

Attitude A___ Attitude B___ Attidude C___

Other____

____

9. In talking with other teachers about students, do you discuss the results of standardized (published) tests with them?

Frequently___ Rarely___
Sometimes ___ Never ___

10. How much formal training have you had in the areas of testing? (Please count in rough equivalents for workshops, institutes, in-service training, etc.)

More than three courses ___
Three courses ___
Two courses ___
One course ___
None ___

11. How do teachers in your school find out what test scores (on standardized tests) their students made, once their scores are reported to the school? Please check the space marked "1" after every method which is used in your school. (Do not use the spaces marked "2" as yet.)

Scores are kept in the administration office and any may look them up who wish. ___ 1 ___ 2

Scores are kept in a particular office and the appointed person will discuss the test results with any teacher who asks. ___ 1 ___ 2

Reports of results in some form are given to the teacher to give to the students, and the teacher can look them over before handing them out. ___ 1 ___ 2

Copies of actual scores are given to the teacher for the teacher to keep. ___ 1 ___ 2

Copies of test results in descriptive form (not actual scores) are given to the teacher for the teacher to keep. ___ 1 ___ 2

Group meetings are held at which test results are explained and discussed with the teachers. ___ 1 ___ 2

Conferences are scheduled with individual teachers to discuss test results. ___ 1 ___ 2

Other ____ ___ 1 ___ 2

12. Which of the methods of transmitting test results listed just above are a good idea? Please go back over the list and mark in the space labeled "2" those methods which you think should be used in your school. Mark those which, if now used, you believe should be continued, and also those which, if not now used, you believe should be put into effect.